FEB 10 1920

Registered at the G.P.O., Sydney, for Transmission by Post as a Newspaper. Published Weekly.

THE MEDICAL JOURNAL OF AUSTRALIA

(With which "The Australasian Medical Gazette," and "The Australian Medical Journal" are incorporated.)

The Journal of the Australian Branches of the British Medical Association

VOL. I.—7TH YEAR—NO. 2. SYDNEY: SATURDAY, JANUARY 10, 1920. PRICE 6D.

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THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. I.—7TH YEAR. SYDNEY: SATURDAY, JANUARY 10, 1920. No. 2.

THE VALUE OF THE CYSTOSCOPE AS A MEANS OF DIAGNOSIS IN UROLOGY.[1]

By A. S. Roe, B.A., M.B., B.Ch. (Oxon), F.R.C.S. (Ed.),
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The excuse for my paper is the ever-increasing need for more exact diagnosis before treatment, especially surgical treatment, is embarked upon. In a paper of this sort it is impossible to cover fully the whole of the ground, so that I have confined myself to the simpler cystoscopic methods and have tried as much as possible to keep to work actually done or seen by myself, although I have naturally had to work on the pathological theories of men more suitably placed for making them. The simpler cystoscopic methods I shall allude to, *viz.*, cystoscopic examination of the bladder, catheterization of the ureters, estimation of the comparative functional value of the kidneys and fulguration, can all be done by means of the two instruments I have here.

The ordinary cystoscopic examination of bladder and ureters can be done quite simply in one's consulting-room under local anæsthesia. Every case must naturally be carefully chosen; acute urethritis, prostatitis, enlarged prostate, irritable bladder, whatever the cause, are not, as a rule, suitable conditions for this form of examination. But, on the whole, a properly chosen and properly carried out cystoscopic examination is a very simple operation, free from ill-effects and absolutely essential to the correct diagnosis of many urinary complaints, as I shall later on try to prove to you.

Catheterizing the ureters is not so simple nor so free from ill-effects. In most cases I find it desirable and possible to perform this operation with local anæsthesia, but, as a rule, I have the patient in hospital for at least twenty-four hours and I am extremely cautious in a case where both kidneys are probably diseased. The fact remains in all cases of so-called non-surgical inflammations of kidney that catheterization of the ureters is the only way to demonstrate the presence or otherwise of infection in the second kidney and consequently actually determines the line of treatment that ought to be adopted.

For the sake of lucidity I have dealt with my subject under three headings and then have given a series of cases actually done or seen by myself, in which cystoscopic procedure has been of great value. The headings I have chosen are, firstly, stone; secondly, growths; and thirdly, infections.

I.—Stone.

Stone may occur in any part of the urinary tract. In the bladder an ordinary stone is readily seen. Its size, nature, position, the degree of cystitis, the presence or otherwise of diverticula or encrusted growths, intravesical enlargement of prostate—all very important points in the successful treatment of the condition, especially if lithotrity be contemplated—can actually be made out and consequently the most favourable line of treatment instituted.

Stone in the ureter, no matter what its position, is likely to cause definite changes in the ureteral opening. If in the intervesical portion, it may actually be seen; if low down or moving, intense œdema of the opening may be present. When an X-ray shadow is seen lying in the region of the ureter, proof of its urinary nature or otherwise depends—short of operation—on the result obtained by means of the cystoscope. A bougie opaque to X-rays can be passed up the ureter and a skiagram taken. As a rule, the bougie will not pass the calculus and it will be seen touching the calculus. Sometimes it does pass the calculus and then the close relationship of the shadows may be clearly seen. Another diagnostic method in the case of ureteral calculus is the passage of a wax-tipped bougie up the ureter. This, on being withdrawn, bears scratches where it has been in contact with the calculus.

In stone in the kidney itself, in all cases where the X-ray shadow is seen lying in some unusual position and the symptoms suggest stone in the kidney, valuable information can be gained by the use of X-rays with the opaque bougie passed up to the kidney pelvis.

The comparative functional test may be of great assistance in estimating the desirability and nature of operation in all cases where both kidneys are affected.

II.—New Growths of the Bladder.

Whether a vesical growth be malignant or otherwise can really only be diagnosed by the cystoscope. Symptomless hæmaturia is always a call for cystoscopy. In bleeding from the bladder, difficulty may be experienced in getting a sufficiently clear medium to ascertain its exact source. But if the blood comes from the kidney, no such difficulty is, as a rule, experienced. The usual site of growths is in the region of one or other ureter, and no difficulty is experienced in differentiating between typical innocent papillomata and the solid carcinomata, although now and then types of the former occur which approximate to the latter. The accepted treatment for small papillomata, if few in number, is fulguration, and this is carried out through the cystoscope, by means of a special electrode.

Intravesical enlargement of the prostate appears as a collar round the urethra, and the amount of sacculation of the bladder wall, etc., can be clearly made out.

III.—Infections of Kidney.

In this class of case, whether the infection is tuberculous or otherwise, the use of the cystoscope is absolutely essential, except in the comparatively few cases of pyelitis or pyelonephritis, which clear up under medical treatment. The symptoms may appear to be entirely confined to the bladder, but the cystoscope will generally show definitely that the real trouble is in the region of one or other ureteral open-

[1] Read at a Meeting of the Queensland Branch of the British Medical Association on November 7, 1919.

ing and that the bladder is only secondarily or reflexly infected. The ureters can then be catheterized and the question of infection in the second kidney decided, while the type of infection concerned can be ascertained. If both kidneys be infected, a comparative functional test will give useful information as regards the power for work of each kidney and the surgeon will then be in possession of data invaluable in helping him in the treatment of a type of case which can be extremely troublesome to handle.

Catheterizing the ureters is of especial value in tuberculous kidney, as the freedom of infection of the second kidney, as is generally the case in the early stages, makes a nephrectomy a most satisfactory operation.

I shall now briefly describe a few cases where the cystoscope was of especial value in making a diagnosis:—

1. Adult male, sudden recurrent attacks of pain and hæmaturia. Cystoscopic examination revealed a definite distortion of the left ureteral opening. The skiagram showed a doubtful shadow. A bougie passed up the ureter met with obstruction at a point corresponding to the X-ray shadow. A calculus was removed at operation.

2. Adult male, incapacitated for four months with hæmaturia, always brought on by standing about. There were no other urinary symptoms. The patient had been under medical observation all this time. A cystoscopic examination disclosed a small oxalate stone in a healthy bladder.

3. Adult male, complaining of attacks of hæmaturia, with dull, aching pain in the right kidney region. By means of the cystoscope a small papilloma was seen, partially blocking the right ureteral opening. This was a very suitable case for fulguration, which would cause a minimum amount of scarring.

4. Adult female, with symptoms of pain and frequency of micturition and some hæmaturia. Cystoscopic examination brought to light a nodular growth in the region of the ureter, obviously malignant.

5. Elderly female, with frequent urination, accompanied by great pain, which had resisted treatment with medicines and rest in bed. On cystoscopic examination a comparatively healthy bladder was seen, with definite changes in the right ureter. The patient then admitted having pain in the right lumbar region, which was so slight compared to the pain on urination that she thought it of no consequence and had not mentioned it before. When the trouble was definitely localized in the kidney we were enabled to push the urinary antiseptic treatment, with marked benefit.

6. Adult female, with six or seven years' history of pain in her side, with exacerbations of pain, frequency of micturition, accompanied by fever and latterly by hæmaturia. On cystoscopic examination the ureteral opening was seen to be œdematous and inflamed; the bladder was not involved. A catheter specimen was obtained from the unaffected side; it contained no pus nor bacteria; no tuberculosis was produced by the injection of the sediment into a guinea-pig. The urinary tract was examined repeatedly by means of X-rays with negative results. The patient refused to submit to operation. She developed surgical anuria, which persisted. in spite of general treatment with saline solution and diuretics. Permission was forcibly obtained on the fifth day and an immediate nephrectomy done, with most gratifying results. The patient has been able to dance and play tennis since. Macroscopically the kidney pelvis was found to be thickened and ulcerated. Microscopically a condition of pyelonephritis was detected.

7. Adult female, with four or five years' history of pain in the back and frequency of micturition, brought on very easily, especially by exposure to cold. She had been treated by various doctors for all sorts of diseases. A cystoscopic examination revealed slight changes in the bladder, with definite changes in both ureters. Urinary antiseptics and a course of bladder washing achieved a satisfactory improvement, enabling the patient to resume her usual occupation.

8. Adult female, with attacks of painful and frequent urination, with pain in the side and pyrexia of four years' duration. Cystoscopy showed a normal bladder, with changes in the ureter on the same side as the pain. Catheter specimens from the ureters at intervals of three months contained pus, *Bacillus coli communis* and a few casts from the diseased side. From the other side the urine was normal. Continuous treatment during this interval failed to relieve the patient from continous pain, nausea and diminished urinary output. A nephrectomy was reluctantly decided upon and performed. The urinary output, pain and nausea were immediately relieved and the patient is making an excellent recovery and states that she is feeling better than she has done for years.

9. Adult female, with pain in the right side for seven years, dating from a disease labelled pleurisy. There were no obvious urinary symptoms lately, but she had had some attacks of frequency of urination at times. The pain varied in intensity and at times was associated with a rise of temperature. During the present attack the urine contained pus, blood and *Bacillus coli communis*. Complete rest in bed, with medicinal treatment, had no effect on the patient, who was very pale, had marked anorexia, was very weak and had a low urinary output. A cystoscopic examination was carried out and a normal bladder and left ureter and diseased right ureter were seen. In this case further cystoscopic procedure was inadvisable. in my opinion, as an anæsthetic was insisted upon and was attended by very adverse effects. In consideration of her general condition, the cystoscopic findings and the peculiar circumstances of the case a nephrectomy was eventually decided upon and carried out. Her pain immediately disappeared, the urinary output was increased, her colour improved and her general condition has made a decided and progressive improvement.

10. Adult female, who had been for eighteen months a continuous invalid, with constant pain in her right side, with exacerbations of pain, accompanied by frequency of micturition and pain on urination. Repeated Röntgenological examination failed to disclose a stone. The patient was intensely neurotic, so that one was apt to mistrust her statements. However, a cystoscopy revealed an intensely inflamed right ureter, congestion of trigone and a normal left ureter. In the skiagram the kidney shadow was seen to be enlarged, but no stone was detected. The functional test with indigo carmine resulted in the excretion of the dye from the left side in twelve minutes and its failure to appear from right side up to thirty-five minutes. Rest in bed and medicinal treatment having had no effect and the intense inflammation of the ureter precluding the passage of a catheter, a nephrectomy was performed. The patient has made an uninterrupted recovery and is free from pain. The urinary output is normal. The condition was a pyelonephritis in a hydronephrotic kidney, due to a congenital stenosis of the ureter.

11 and 12. Two cases of tumour in the right side, one of enormous dimensions (actually containing more than 1,700 c.cm. of pus), the other very low down. In both cases pus was present in the urine. The cystoscopic examination revealed pus actually exuding from the ureter in both cases, with a normal second ureter—a finding which made the diagnosis and treatment obvious.

13. Girl, aged 15 years, with a sudden onset of severe pain low down in the right inguinal region. There was a history of severe backache; the temperature was normal. Cystoscopy revealed, excluding ureteral calculus in this region, normal ureters and bladder. At a laparotomy a prolapsed ovarian cyst was found, with a small hæmorrhage into it. Resection of the ovary and suspension of uterus cured the condition.

14. Adult female, with pain in the appendicular region, for which appendicectomy was formerly done with no effect on the pain. Microscopic examination showed pus and blood in the urine. Pathological changes were seen in the right ureter by cystoscopic examination. A radiographic examination showed a shadow which was subsequently proved at operation to be a ureteral calculus, the removal of which completely relieved the patient's symptoms.

15. Adult male, with pain in the left kidney region of several years' duration. The pain was apt to pass around the body. The condition had been diagnosed on various occasions as intercostal neuralgia, myositis, renal calculus, malingering, etc.. No stone was discovered by X-ray examination. The nerve reflexes were normal. On cystoscopic

examination the ureters were seen to be normal. This excluded the likelihood of a chronic urinary trouble of such long standing and intensity. The Wassermann reaction was positive and antisyphilitic treatment was instituted with good results.

In conclusion, I would like to submit the fact that, before operation on one kidney, it is of vital importance to know of the presence or otherwise of a second one and also to judge its functional ability. Anyone who starts to operate upon one kidney, has before him the possibility of having to decide between nephrectomy and nephrotomy where nephrotomy was anticipated—whether it be for severe hæmorrhage or for some condition unforeseen before operation. And how can he make that decision without the above data?

A simple cystoscopy for all practical purposes is free from danger and will practically prove the presence of a second kidney. And if there is any doubt about the condition of that kidney, a comparative functional test will give valuable information.

THE ISOLATION OF AN ORGANISM RESEMBLING THE PARATYPHOID GROUP.[1]

By **Arnold Dean, M.D., Ch.M. (Sydney),**
Director, Micro-Biological Department, Brisbane.

I wish to bring before your notice the following work, which has been performed in the Department during the last three months.

From the urine and fæces I succeeded in isolating an organism of the coli-typhoid group, which gave unusual bio-chemical reactions in the sugars. Unfortunately, we have been hampered by the lack of clinical material and the results secured, although small, should stimulate the more detailed study of this group.

The Source of Pathological Material.

I. We first isolated the organism from the urine of a child (R) at the Mater Misericordiæ Hospital, Brisbane. The organism was present, associated with *Staphylococcus aureus.* Owing to a contamination, I lost this strain. However, by the courtesy of the Sisters, some fæces of the child were sent to the laboratory and again the organism was recovered.

The following letter from Dr. Kelly was also received: "Patient R. belongs to the Nudgee Orphanage, where there are six hundred children. Influenza broke out in the orphanage and all the children were infected within a few days. Patient R.'s symptoms were influenzal. He had a temperature of 38.3° C. and was bleeding from the bowels. After five days' illness he was admitted to the Mater Misericordiæ Hospital with blood-stained motions, consisting mostly of mucus. He was treated as a case of colitis and the motions became normal. His temperature remained slightly hectic and so a specimen of his urine was sent to you for examination. His general condition has improved, but there is still a little irregularity of temperature. I might mention that his early rise in temperature only lasted two days." The letter was received on July 16, 1919.

II. About two weeks later we isolated the same type of organism from the fæces of a patient in the Brisbane General Hospital. A history was unobtainable.

III. A case from the Enoggera Military Hospital, where the fæces were sent in for *Amœba histolytica* or a dysentery bacillus. A letter accompanied this specimen, saying that a child of the patient was an inmate of the Children's Hospital, suffering from a similar complaint.

IV. A case from the Brisbane General Hospital, sent in for dysentery. From this specimen two colourless types of colonies were isolated on McConkey media. One of these produced acid in mannite and glucose, no change in sorbite. Litmus milk was at first turned acid and then became alkaline about the fourth day. The other type of colony will be described later.

V. Another case from the Brisbane General Hospital, where the fæces were sent in for examination, to see if there were any dysentery bacilli present.

Characters of the Organism.

The following are the chief characteristics of this type of organism:—

Staining Reactions.—The organism stains easily with the usual aniline dyes. It is negative to the Gram method of staining.

Size.—The organism is smaller than *B. typhosus,* being more of a cocco-bacillus in appearance. It varies from 1 μ to 2 μ in length.

Cultural Appearances.—On agar and gelatine plates it grows as circular colonies, with slightly irregular margins. They appear as whitish colonies

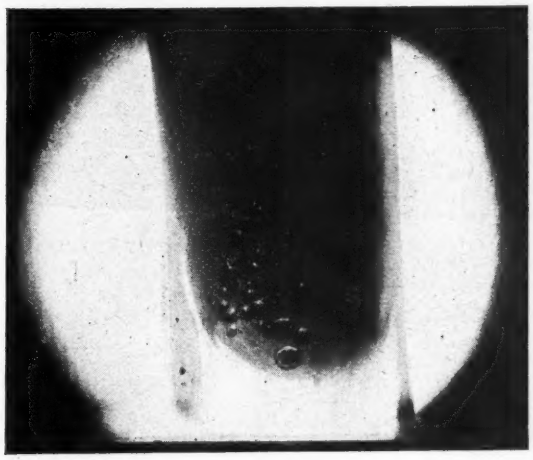

FIGURE I.
Microphotograph of a culture, showing light coming through the periphery. The centre is granular.

by reflected light and bluish white by transmitted light. Under the microscope the colonies appear to be transparent. The centre appears granular, the edges beautifully clear and transparent. On stroke agar and gelatine cultures there is a whitish growth, with well-defined edges. The growth can be easily scraped off. The gelatine is not liquefied. In gelatine stab cultures the organisms grow away from the puncture point. The margin of the growth is

[1] Read at a Meeting of the Queensland Branch of the British Medical Association on November 7, 1919.

thin, irregular and round. After one month it did not reach the side of the tube. The puncture line shows growth throughout its entire length. At the end of twelve days a gas bubble appeared on the side of a tube deep down in the media. There is great difficulty in working with gelatine in this State, as any marked increase of temperature liquefies it.

In bouillon a well-marked diffuse turbidity is apparent.

In lead acetate-glucose-lactose media, colonies appear as dirty white growths, which later become quite brownish-white. Stabs into the bulk of the media produced gas. On McConkey's medium the organisms grow in bluish-white colonies, which are very easy to recognize.

Poor cultures in Teague's media have a dirty white colour.

On potato there is a free growth, noticeable to the eye after sixteen hours. It is very moist in appearance and of a slightly brownish-white colour.

Motility.—In hanging drop preparations the bacilli are seen to be actively motile. The rapid rotatory motion is more common than the cruising type of *B. typhosus*. Long filamentous forms have not been encountered. An interesting fact discovered by Mr. Brown is that the motility of typhoid bacilli, etc., is greatly increased by keeping the bouillon cultures at a temperature of 30° C..

The most interesting characteristics of this group, however, are their bio-chemical reactions with the sugars. For the sake of comparison, it was contrasted against historic strains of *B. typhosus* (Lister Institute), *B. typhosus* (Royal Prince Alfred Hospital, Sydney), *Bacillus coli communis*, *B. paratyphosus A* and *B*, strains of Lentz, Schottmüller, Shanks and Preston. These strains were supplied by the University of Sydney, as subcultures from their strains. The sugars used were those supplied by Merck, with the exception of saccharose, which was obtained from Messrs. Taylor & Colledge, Brisbane. The bio-chemical reactions obtained by the different strains are shown in the attached table. The sugars were under observation for one week. The litmus milk tubes were kept for thirty-one days. In testing for indol the ferric chloride, chloroform and benzaldehyde-persulphate of potash tests were employed. For these tests I am indebted to Mr. Meston, of the State Analyst Department.

From the tables given it will be seen that the organism isolated in Brisbane does not ferment dulcite, lactose, inulin or adonite, while, on the other hand, it ferments saccharose, mannite, maltose, glucose, sorbite, raffinose and arabinose. Its gas-producing powers are considerable, particularly on saccharose, glucose and sorbite. In arabinose and raffinose its action is changeable. New cultures give acid and slight gas formation. Some subcultures only give an acid reaction. Its action on litmus milk differs widely from the usual non-lactose fermenters. For the first four days no change is noted, except that on the second day the alkalinity of the litmus milk is more exaggerated, the milk becoming intensely blue. On the fifth day the milk assumes an acid reaction. This continues until the tenth day, when clotting of the milk occurs. On the fifteenth day the milk clears,

Organism.	Mobility.	Gelatine.	Glucose.	Lactose.	Dulcite.	Mannite.	Saccharose.	Maltose.	Arabinose.	Sorbite.	Raffinose.	Inulin.	Adonite.	Litmus Milk. 1	2	3	4	5	6	7	8	9	10	15	31	Indol.
B. coli communis	× × ×	—	AG	AG	AG	AG	—	AG	—	AG	—	—	—	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	×
B. typhosus (Lister strain)	× × ×	—	A	AG	—	A	—	A	—	A	—	—	—	A	A	A	A	A	A	A	A	A	A	alk	alk	—
B. paratyphosus A (Lentz strain)	× × ×	—	AG	—	AG	AG	—	AG	AG	AG	—	—	—	A	A	A	A	A	A	A	A	A	A	A	A	—
B. paratyphosus A (Schottmüller strain)	× × ×	—	AG	—	AG	AG	—	AG	AG	AG	—	—	—	A	A	A	A	A	A	A	A	A	A	A	A	—
B. paratyphosus B (Lentz strain) ..	× × ×	—	AG	—	AG	AG	—	AG	AG	AG	—	—	—	A	A	A	alk	alk	alk	alk	alk	alk	alk	alk	alk	—
B. paratyphosus B (Schottmüller) ..	× × ×	—	AG	—	AG	AG	—	AG	AG	AG	—	—	—	A	A	A	A	alk	alk	alk	alk	alk	alk	alk	alk	—
B. Paratyphosus A (Shanks)	× × ×	—	AG	—	AG	AG	—	AG	AG	AG	—	—	—	A	A	A	A	A	A	A	A	A	A	A	A	—
B. Paratyphosus B (Shanks)	× × ×	—	AG	—	AG	AG	—	AG	AG	AG	—	—	—	A	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	—
B. paratyphosus B (Preston)	× × ×	—	AG	—	AG	AG	—	AG	AG	AG	—	—	—	A	A	AC	AC	alk	alk	alk	alk	alk	alk	AC	AC	×
B. cloacæ	× × ×	× o	AG	AG	—	AG	AG	AG	AG	AG	AG	—	—	—	—	—	—	A	—	—	—	—	alk	alk	alk	—
B. aertyck	× × ×	—	AG	—	AG	AG	AG	AG	AG	AG	AG	—	—	—	A	A	A	A	A	A	A	A	AC	A*	A	—
Brisbane organism	× × ×	—	AG	—	—	AG	AG	AG	AG	AG	AG	—	—	alk	alk	alk	alk	A	A	A	A	A	AC	A	A	—

× = Presence of motility.
×× in Indol column = production of indol.
×o = Liquefies gelatine.

— = No change in sugar.
A = Acid.
AG = Acid and gas.

AC = Acid and clot.
alk = Alkaline.
* = Fluid.

but still retains its acid reaction. The historic strains differ from this, according to our work. The gas formation of *B. paratyphosus A* is small. Its action on litmus milk is a permanent slight acidity. In *B. paratyphosus B* the gas production is plentiful. Litmus milk retains its acidity until the fourth day and then becomes alkaline. The appearance on lead acetate media also resembles *B. paratyphosus B*, being a brownish-white colour.

No fluorescence was noted with neutral red broth.

Agglutination Reactions.

A vaccine was prepared from the Enoggera Military Hospital culture. A dose of 0.18 c.cm. was injected subcutaneously into a grey rabbit. A second dose was given seven days later. Some serum was taken from the marginal vein of the rabbit on the tenth day. Tested against the organism, it was found to have an agglutination titre of over 1 in 15,000 dilution. I had found that the serum of "R" (Mater Misericordiæ Hospital) caused partial agglutination when tested against *B. typhosus* (Royal Prince Alfred Hospital strain) and it was this fact that stimulated us to see more of the organism.

(*i.*)—

	Serum Dilution							
	1-5	1-10	1-15	1-100	1-500	1-1000	1-7000	1-10000
Vaccinated rabbit's serum against organism isolated in Brisbane..	+	+	+	+	+	+	+	+

(*ii.*) Rabbit serum against broth culture of *B. typhosus* (Royal Prince Alfred Hospital, Sydney):—

	Serum Dilution				
	1-5	1-10	1-30	1-60	1-120
B. typhosus, Royal Prince Alfred Hospital, Sydney..	+	+	Slight clumping	—	—

(*iii.*) Rabbit serum against *B. paratyphosus A* (Lentz):—

	Serum Dilution				
	1-5	1-10	1-30	1-60	1-120
A. paratyphosus (Lentz) ..	+	+	—	—	—

(*iv.*) Rabbit serum against *B. paratyphosus B* (Lentz):—

	Serum Dilution				
	1-5	1-10	1-30	1-120	1-1000
B. paratyphosus (Lentz) ..	+	+	+	Clumping bacilli very motile	No clumping

(*v.*) My own serum and fresh rabbit's against organism isolated in Brisbane:—

	Serum Dilution				
	1-5	1-10	1-20	1-60	1-120
———	+	—	—	—	—

Serum from patient "R" (Mater Misericordiæ Hospital), serum from "M" (Children's Hospital, Dr. Dixon's case) and "W" (Brisbane General Hospital). The two last mentioned patients were sent in for a Widal reaction. They were negative. We tested them against the organism, with the following results:—

(*vi.*)—

	Serum Dilution				
	1-5	1-10	1-30	1-60	1-120
Organism isolated in Brisbane	+	+	+	+	+

Group Agglutinins.—Rabbit immune serum tested against *B. typhosus, B. paratyphosus A, B. paratyphosus B* and organism isolated in Brisbane. The tests were carried out in the following manner: A required serum dilution was made and 1 c.cm. of this placed in a thin test tube. This was inoculated with one drop of living bouillon broth cultures and the test tubes placed in the incubator for two hours.

(*vii.*)—

	Serum Dilution			
	1-10	1-50	1-100	1-1000
B. typhosus (Lister)	Slight	—	—	—
B. paratyphosus A (Lentz)..	Slight	—	—	—
B. paratyphosus B (Lentz)..	Slight	Slight	Slight	Slight
Brisbane organisms	Marked	Marked	Marked	Marked

The same procedure was carried out with the organism against stock sera at present in the laboratory.

(*viii.*)—

	Serum Dilution			
	1-10	1-50	1-100	1-1000
Antityphoid serum labelled "Melbourne" against organism	Slight	Very slight	Nil	Nil
Serum labelled "Anti-Gaertner" against organism ..	Slight	Nil	Nil	Nil
Serum labelled "Anti-*paratyphosus A*, Batavia" ..	Definite ppt.	Very slight	Very slight	Nil
Serum labelled "Anti-*paratyphosus B*, Batavia" ..	Definite ppt.	Definite	Very slight	Very slight

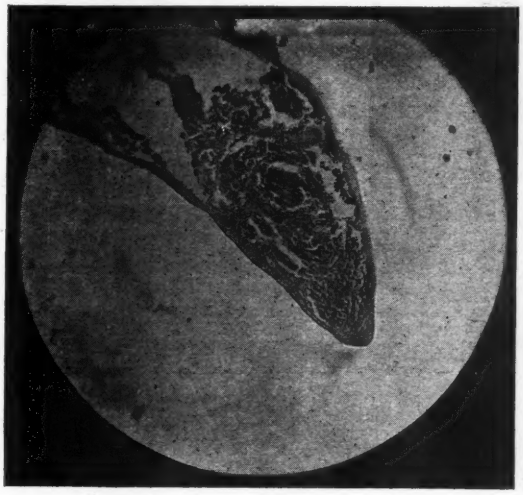

FIGURE II.
Lymphatic gland.

In Table VII.—The test tubes were centrifugalized, so as to throw down all the organisms. The supernatant clear fluid was then tested against the Brisbane organism and found to give definite agglutination deposits.

Deduction.—From the above it will be seen that there has been isolated from the urine and fæces of the patients in Brisbane an organism showing partial agglutinating receptors for the typhoid and paratyphoid group, whilst retaining against its own serum definite specific agglutinins.

Animal Experiments.

A grey rabbit was injected intravenously with 0.1 c.cm. of the organism in broth. The next day

he appeared very sick. His temperature was 37.8° C.. He refused food and exhibited extreme languor. This state continued for six days, during which time he lost much flesh. On the seventh day he began eating again. On the tenth day diarrhœa commenced and he died on the fourteenth day.

Post-Mortem Examination.—Rabbit exhibited extreme emaciation. The peritoneum showed subacute inflammation. The small intestine was inflamed, the vessels standing out. The big bowel was also inflamed, thinned out and full of fluid fæces. The spleen was not enlarged. The liver showed venous congestion. The organism was recovered from the fæces and there was present a Gram-negative bacillus in the blood of the liver.

Intraperitoneal injection of a guinea-pig produced the same symptoms. The animal was killed on the fourth day. It presented much the same symptoms and signs as the rabbit, only its spleen was slightly enlarged.

Subcutaneous injection from a rabbit produced a large abscess, from which the organism was recovered.

FIGURE III.
Intestine, showing leucocytic infiltration.

Microscopic sections of guinea-pig's intestine examined under the microscope showed an inflammatory reaction. The mucosa was infiltrated by lymphocytes. Another section showed an acute inflammatory reaction, with slight extravasations of blood. No ulcers were noted.

Complement Fixation Test.

A white rabbit was injected intravenously by 0.4 c.cm. of an agar culture in water. Three days later it was bled and the serum obtained to carry out some fixation of complement tests.

Preparation of Antigen.—An agar slope culture was scraped off in 10 c.cm. of water. The mixture was then shaken to break up the clumps. It was frozen at —7° C. for 12 hours, then shaken for four hours, again frozen at —7° C. for 12 hours and then shaken for six hours. Finally it was heated at 45° C. for one hour. The tests were carried out according to the technique adopted by the Lunacy Department of New South Wales. It was found that 0.07 c.cm. antigen would not bind 0.1 c.cm. of guinea-pig complement (dilution 1 in 10). The usual hæmotytic system was used.

Results of test:—

"X" serum	Positive
Typhoid	Positive (slight)
Paratyphoid A	Negative
Paratyphoid B	Negative
Gaertner	Negative

The typhoid serum was not glycerinated and was about five years old.

Conclusion.

From the above work it will be seen that there has been isolated from patients in Brisbane an organism presenting many of the characteristics of the paracolon group. At the present time there is a movement on foot to link up all the organisms of this class under four heads: (*i.*) typhoid, (*ii.*) *paratyphosus A*, (*iii.*) *paratyphosus B*, (*iv.*) food poisoning group. All organisms such as *B. aertryck*, *B. enteriditis* (Gaertner), etc., are classified under one head and

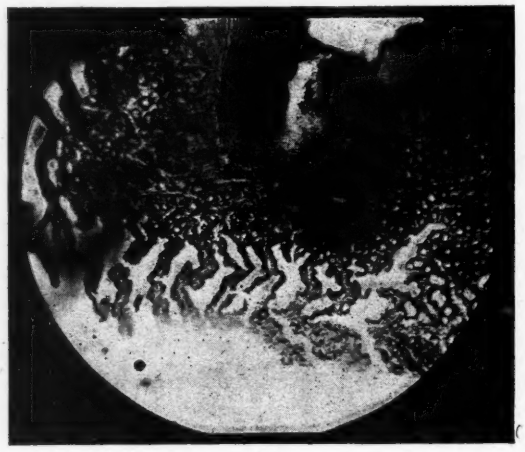

FIGURE IV.
Intestine.

called collectively the Salmonella, after Salmon, who discovered the bacillus of hog cholera. In 1906 Boycott summarized the position: "On the whole, the distinction between hog cholera and paratyphoid B, though slender, seems to be real. The morbific relations to man are different, for while the former gives rise to acute sudden illness (food poisoning), paratyphoid B causes a disease with no clear clinical distinctions from enteric fever." Later still, Bainbridge, with the aid of Castellani's absorption test, showed that there existed a specific difference. This was afterwards clearly shown by complement fixation tests by Dean. It has been shown by agglutination work that the organism isolated in Brisbane falls under the head of three in the classification given above. In its agglutination reactions it appears to be more closely linked to *B. paratyphosus B* than *B. paratyphosus A* or *B. typhosus*. Briefly summarized, the organism showed the following characteristics:—

(*i.*) It does not ferment lactose or dulcite.
(*ii.*) It produces gas in saccharose and raffinose.
(*iii.*) It does not produce indol.
(*iv.*) It produces acid in litmus milk on the fifth day, clots the milk on the tenth and clears it on the fifteenth day.
(*v.*) It has agglutinating powers similar to *B. paratyphosus B.*

Dr. Cameron has informed me that there is present in Brisbane a mild type of typhoid fever, which he has been in the habit of calling paratyphoid fever. Its association with the Military Hospital at Enoggera is interesting, as this strain may have been brought back to Australia by returned soldiers. I have never had the opportunity of seeing one of the patients. The shortage of medical men seems to make it difficult to obtain any notes on the material which is brought for examination to the laboratory. The notes which did accompany the specimens, pointed to a dysentery bacillus as being the causal agent. I hope that the result obtained will stimulate the medical side of bowel infection in Queensland. In dealing with the sugar reactions, different workers have obtained different results and I have modelled the contrasts on work done on the Sydney University cultures, which Professor Welsh so kindly placed at our disposal and also from tables obtained from the works of McConkey, Muir and Ritchie, Burton Bradley and Stitt.

In conclusion, I wish to thank Messrs. Brown and Hitchcock for the attention and devotion given to this work. In a laboratory where there is so much routine work, any new work is difficult.

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NOTES FROM ABROAD.[1]

By **E. Temple Smith, M.B., F.R.C.S.E., D.O. (Oxon.),**
Senior Ophthalmic Surgeon, St. Vincent's Hospital and the Royal Alexandra Hospital for Children; lately Ophthalmic Specialist, Army Medical Corps, Australian Imperial Force.

In common with other branches of surgery, ophthalmology has gained not a little from war experiences. Our knowledge of the cortical localization of vision has been much added to by the work of Gordon Holmes and others. They have made careful observations on the fields of vision in various occipital injuries, where the lesion has been small and capable of accurate definition.

While at the No. 14 Australian General Hospital in Egypt I saw a large number of men suffering from malignant malaria, who had flame-shaped retinal hæmorrhages. These, however, were all met with in men who were profoundly anæmic as a result of the disease. The fundi resembled those met with in pernicious anæmia and I should surmise that it was due to a similar blood condition induced by the infection. For the rest, the work was of a routine character and devoid of much of special interest to members of this Society.

There is one branch of ophthalmic work, however, which I was privileged to see and which needs to be seen to be appreciated. I refer to the newer developments of plastic surgery of the eyelids and orbit.

During the four months in which I was doing ophthalmic work in London and the South of England for the Australian Imperial Force, I managed to arrange my work so that I could visit the Queen's Hospital, Sidcup, Kent, several times a week. This place is devoted exclusively to the repair of facial injuries. Though only twelve miles from London, it is situated in a very lovely part of Kent. The hospital is in the grounds of Frognal House, formerly the seat of the Earl of Sydney. The house itself is used as quarters for the staff and for invalid officers. Anything more beautiful than the old-world garden, amongst the trees of which the pavilions are built, one would go far to seek.

The work done here is of very high quality. Noses, jaws, eyelids and orbits are reconstructed by transplantation of bone and cartilage and by the adaptation of skin flaps.

When a large piece of cartilage is needed, an incision is made over the lower costal cartilages, which are resected, shaped and buried in the required position. These implantations seldom fail to grow. They advise the insertion in Tenon's capsule of a piece of rib cartilage after enucleation, either at the time or later. But personally I have such satisfaction from the use of a glass globe that I shall continue to prefer it.

Use was made of pedicle flaps of every kind. And the "Woolf" graft of whole-thickness, detached skin was often successful.

Cartilage for stiffening the lid margins can be obtained from the concha, where the natural curve can be utilized. This is buried beneath the skin in such a position that when it has become adherent it is turned up with the skin flap and becomes part of the new eyelid. Where the malar prominence or any part of the bony orbit is absent, costal cartilage or fat is buried beneath the skin to fill the gap. Even new eyebrows can be made by so arranging the flap that a small margin of hairy scalp is included.

The most interesting procedure to me was the new method of deepening a shallow socket, to enable a glass eye to be worn. This has always been a difficult problem for the oculist. The inlay method of Esser has much simplified this. This expedient is merely a convenient and effective way of keeping a Thiersch epithelial graft in position. An incision is made in

[1] Read at a Meeting of the Ophthalmological Society of New South Wales on November 5, 1919.

the shallow socket as deep as need be and a softened piece of dental mould (Stent) is pressed into the raw cavity to receive an impress of its size and shape. A Thiersch graft as thin as possible is spread, epithelium inwards, over the mould, to which it adheres. This is put into the cavity and held in by a few sutures and is left in for from seven to ten days. When the stitches are cut and the mould extracted the cavity is found lined with epithelium. The new socket does not seem to have a tendency to contract.

An outstanding principle in all these plastic operations is the excision of all scars down to the bone as a preliminary to all other procedures.

The designing and adaptation of healthy skin for pedicle flaps need a good deal of imagination and foresight, as well as experience. But what could be done in this way was a revelation to the observer. There should still be a good deal of this kind of work on eyelids and sockets to be done for returned soldiers in Australia.

Major Gillies, who is now doing most of the work at Sidcup and who is a very deft and ingenious operator, has adapted Esser's methed for the treatment of ectropic conditions. Having made a raw surface on the outside by freeing all adhesions which evert the lid and having drawn the eyelid (upper or lower) into position, he buries a Stent mould covered with epithelium and stitches it in place. This, of course, temporarily increases the ectropion, but when the stitches are taken out and the mould extracted, the lid falls into its natural position, covered with new skin.

I forgot to say earlier in my paper that while in Egypt I took the opportunity of seeing McCallan, the Director of the Government Ophthalmic Hospitals, at work. He very kindly showed me the various plastic operations that are in vogue there for trichiasis and entropion. I saw van Millengen's and Snellen's operations done with an elegance and neatness that I have not seen equalled elsewhere and learned some very useful points in technique. The operation done by them, however, for tarsectomy (Heisrath's excision) was far inferior in execution and technique to that perfected by Shepherd, with his special clamp.

Reports of Cases.

A CASE OF SEPTICÆMIC ANTHRAX SUCCESSFULLY TREATED BY INTRAVENOUS SERUM THERAPY.

By **E. N. Bateman, M.B., B.S. (Dubl.),**
Major, Australian Army Medical Corps, Egypt;
and
N. Hamilton Fairley, M.D. (Melb.), O.B.E.,
Lieutenant-Colonel, Australian Army Medical Corps, Egypt.

The following case of malignant pustule associated with an anthrax septicæmia appears sufficiently remarkable to place on record. From the limited literature at our disposal we gather that septicæmic anthrax is almost invariably a fatal disease. In the present case anthrax bacilli were demonstrated in quantity in the sero-purulent discharge from the excised pustule and on the fifth day of the disease hæmoculture yielded a positive result. The energetic administration of a large quantity of Sclavo's serum culminated within twenty-four hours in a critical fall of temperature, in a complete recovery from all toxic symptoms and in a rapid amelioration of the local lesion itself.

The salient features of the case are as follows:—

The patient was under 26 years of age, of good physique and a trooper in one of the Australian light horse regiments.

He stated that a week prior to his admission to hospital he had been shaved by an Egyptian barber in one of the native villages in the canal zone.[1]

Four days later there had developed on his right cheek a red, angry pimple with two or three surrounding vesicles. He reported sick to his medical officer, Captain Tregear, Australian Army Medical Corps, who diagnosed the condition as anthrax. He was immediately evacuated to a field ambulance, where the pustule was excised. Early on the fourth day of illness he was admitted to the base hospital at Cairo. On examination there was found an angry, red, infiltrated swelling, involving the tissues of the right cheek surrounding the area of excision. The cervical glands were enlarged. Anthrax bacilli were demonstrated in the sero-pus exuding from the walls of the excised area. The general condition of the patient was good; the temperature was 38.3° C., the pulse 98 and the respirations 28 per minute. A blood culture was taken, but proved negative.

On the fifth day the patient was not so well and the pulse and temperature had risen. Locally the inflammatory infiltration had spread down to the neck, causing a very large, extensive swelling, while the looser tissues were œdematous. The patient could not open the right eye.

The spleen was definitely enlarged, being easily palpable below the left costal margin.

Careful investigation was made to exclude the possibility of malarial infection. The result of examination of blood films was repeatedly negative for parasites and the differential count showed no abnormal increase in the large mononuclear elements. The total leucocytic count equalled 18,000 per c.cm.. Another blood culture was taken.

Forty cubic centimetres of Scalvo's serum, which had by this time been obtained from the Central Institute of Hygiene, were administered subcutaneously. In addition, an endeavour was made to deal with the inflammatory condition. Under ethyl chloride general anæsthesia scarification of the extensive swelling was carried out by Lieutenant-Colonel E. E. Brown, Australian Army Medical Corps, and hypertonic saline treatment instituted with the idea of promoting a lymph flow to the periphery.

On the sixth day of illness the patient was obviously worse. Despite his serious state, his mentality was extraordinarily clear. The temperature was 39.8° C., the pulse 136; the tongue was heavily coated and drier than previously. The patient sweated profusely. Swallowing was more difficult. Locally the inflammatory condition had spread further and the œdema and tension were more marked. The spleen was still very enlarged.

The laboratory report of the hæmo-culture taken on the preceding day now came to hand; it was found to be positive.

Immediately 60 c.cm. of Sclavo's serum were administered intravenously and 40 c.cm. were given subcutaneously. The prognosis was considered very grave.

On the seventh day there was a marked change. Following the intravenous injection there had been a further rise in temperature and the patient appeared worse. During the night, however, the temperature had fallen by crisis and on the morning of the seventh day of illness the patient was sitting up in bed reading a magazine. The temperature and pulse were normal. Already the local inflammatory lesion on the face was improving. Hereafter convalescence was rapidly established and the local infiltration of the tissues quickly subsided. The patient made an uninterrupted recovery.

A CASE OF RUPTURE OF THE LIVER, WITH RECOVERY.

By **Leo Doyle, M.S. (Melb.),**
Surgeon to Out-Patients, St. Vincent's Hospital, Melbourne.

In a recent issue of the *Annals of Surgery* there was a discussion on rupture of the liver and the best method of treating it. One of the speakers in reporting a case of

[1] Immediate measures were taken to place this Egyptian village out of bounds to troops as a prophylactic measure against infection of other members of the regiment. No further cases were reported.

recovery said that he thought that recovery from liver rupture was rare. This discussion is my apology for reporting the following case.

R.J., male, *æt.* 8, was admitted from the Casualty Department on May 30, 1919, suffering from the effects of a motor car accident, which had occurred some two hours previously. It was said that the wheel of the car had passed over his body.

On examination soon after admission the patient was discovered lying in bed slightly shocked, the legs being drawn up and the expression concerned. The radial pulse was of good volume and the rate did not exceed 104. The patient did not complain of pain and there were no marks or bruises on the trunk. The breathing was thoracic in type, though abdominal movement had not entirely ceased. The abdominal muscles were on guard, but there was nothing like a board-like, unyielding rigidity in any area at any time. There was no noteworthy tenderness and percussion showed relative dulness in both flanks, more marked, if anything, in the left side, where it was of shifting character. Full tympany was elicited in the upper districts of the abdomen and no helpful information was obtained by examination of the chest. The mandible was fractured on the left side at the seat of election, but no other injuries save some facial abrasions were discovered.

The outstanding features of the case were the thoracic type of breathing, the anxious expression of the child and the history of very severe trauma. Micturition occurred shortly afterwards and perfectly normal urine was voided. A provisional diagnosis of a ruptured abdominal viscus was made and the evidence suggested that the lesion would be found in the spleen or the left lobe of the liver. The general appearance of the child was indicative of an injury much more serious than what was compatible with the physical signs and it was felt that it would be safer to explore the abdomen immediately rather than to wait.

Laparotomy was performed under ether anæsthesia about two hours after admission, a vertical incision being made through the upper left rectus muscle. On opening the peritoneum blood-stained fluid was encountered and on retracting the abdominal wall blood gushed up in startling quantity and with such rapidity as to give quite a dramatic turn to the operation. The issue was with difficulty controlled and was traced to the right lobe of the liver. There was a laceration on the anterior surface commencing on the free edge about 2.5 cm. lateral to the gall bladder and running vertically for about 5 cm.. The child had by this time lost a large quantity of blood and was clearly in a parlous condition. An attempt at suture having shown that it would be both long and difficult to suture such a long and freely bleeding tear in the right lobe of the liver from a left-sided incision, it was decided that packing the tear was the most reasonable thing to do. Therefore a long strip of iodoform gauze was packed as tightly as possible into the wound and the end brought out of the incision. The laceration was bleeding so freely that it was difficult to keep this plug in position. For this purpose and to exert pressure on it four large abdominal packs were inserted between the liver and the diaphragm over the tear. The abdominal wound was now quickly sutured. During the operation sub-mammary injections of saline solution were freely given.

On his return to the ward the condition of the child seemed so desperate that transfusion was suggested. The father of the child offered himself as a donor and about 300 c.cm. of blood were withdrawn from his median cephalic vein into a citrate solution. The whole was now injected into the veins of the child. The blood was obtained from the father and injected into the child in each case by pushing a hollow needle through the skin into a vein.

During the first twenty-four hours after operation the condition was encouraging, the pulse ranging between 118 and 140 and the temperature between 37.4° and 38.4° C.. Vomiting was almost incessant. During the next twenty-four hours the notes record that vomiting was still very frequent and the child's condition very low. About 70 hours after operation the child was taken back to the theatre and under light ether anæsthesia the packs were removed, drains inserted and the wound closed again. The packs were slightly stained with blood and with bile, but both were ancient. No further hæmorrhage occurred.

During the next few days the vomiting ceased and the patient was getting no worse, if not improving. The temperature was always above normal, the highest point being 38.9° C. on the sixth day and the pulse ranged between 130 and 140. The wound discharged freely through the tubes, which were removed on the eighth day. During the next three weeks the chart showed a remitting type of pyrexia. Difficulty was experienced with the bowels and the patient developed a very troublesome cough, but nothing abnormal was found on examination of the lungs. The convalescence was complicated by the formation of a prepatellar abscess, which was opened on the 23rd day. Eventually recovery became definitely declared and the patient left the hospital, his wound healed and in fair condition, on the 41st day after admission.

The interesting feature of this case was that there could be such a large hæmorrhage with so few symptoms. The lesson to be drawn from this is that when there is a possibility of one of the solid abdominal viscera being damaged, it is generally safer to explore at once rather than to await the classical symptoms of hæmorrhage. Another feature was the effect of the transfusion, although the amount of blood given was small in comparison to the amount of blood lost. Before it was done the child was apparently moribund and its effect was apparently to swing the balance sufficiently far in the child's favour to give him a fighting chance.

The discussion mentioned at the beginning will be found in the *Annals of Surgery* of August, 1919.

Reviews.

ANTARCTIC STUDIES.

The scientific reports of the Australasian Antarctic Expedition have recently been enriched by the appearance of Part 4 of Volume VII., entitled "Bacteriological and Other Researches."[1] The contents of this contribution deserve more than a passing notice, not only the account of the fact that every newly recorded observation is of definite scientific value, but also because the author infuses into his enchanting narrative a wealth of information that has application far beyond the confines of polar exploration. Dr. A. L. McLean has established for himself a reputation as an intrepid and resourceful explorer; he has given the world evidence that the qualities essential for enterprises of this kind are of the utmost value in modern warfare; his war record is a fitting supplement to his achievements on the vast white fields of the unknown south. Apart from the interest and importance of this book, its literary merit will command a wide circle of readers. The critic is placed at a disadvantage, for the author tells his story in so fascinating a manner that it is by no means an easy task to indulge in a cold and ruthless analysis of his deductions and speculations. The greater part of the volume is devoted to the recital of the results of the bacteriological investigations conducted during the Mawson expedition and since the return of the plucky party. He has confirmed and extended the observation of the scientists of the four previous Antarctic expeditions that the intestinal tracts of the Antarctic vertebrates contain bacteria in relatively small numbers. His observations, however, reveal that some known and some apparently new species of bacteria are harboured by the seals, skua gulls, penguins and sea leopards. The conditions under which he was constrained to work precluded the application of the necessary differential methods to enable him to classify some of the bacteria with certainty, but he is probably justified in assuming the identity of several of the organisms grown artificially in the little laboratory housed in the Hut in Adelie Land.

In the next place he records many details of his researches into the bacteriology of the ice, snow, soil and marine mud both in Macquarie Island and in Adelie Land. The fact is definitely established that Antarctica is not sterile; the information may come as a surprise to many, but the evidence is produced and is uncontrovertible. Dr. McLean indulges

[1] Scientific Reports of the Australasian Antarctic Expedition, 1911-1914: Series C., Zoology and Botany; Volume VI., Part 4, Bacteriological and Other Researches, by A. L. McLean, B.A., M.D., Ch.M. (M.C.); issued on November 1, 1919. Printed by William Applegate Gullick, Sydney; Royal 4to., pp. 130, with 11 plates and 13 text figures. Price, 16s. (to subscribers, 13s. 6d.).

in a speculation concerning the manner in which the bacteria wafted by the wind to the ends of the world survive and bases his theories on the known physical phenomena of the freezing of water containing a salt in solution. It is eminently probable that his explanation is correct; at all events, it is a reasonable and logical deduction and satisfies the observed conditions. It has long been known that bacteria are capable of withstanding extreme degrees of cold. Even the temperature of liquid air can be supported for considerable periods. Bacteria lodged on the fragments of dust, caught up by snow, may be carried on to a frozen surface and be gradually imbedded in ice. Since the water of a solution of salt freezes long before the actual solution is converted into a solid state, the ice will be found to contain innumerable tiny crevices and tortuous channels, through which the concentrated brine courses downwards. The temperature of the unfrozen concentrated salt solution under ordinary conditions is but little below the freezing point of pure water. In these channels bacteria must be able to support life without difficulty and when liberated by mechanical means, they would be ready to take on continuous growth. Dr. McLean further points out that the bacteria of the antarctic snow and ice apparently have acquired the property of growing better at low temperatures than at the temperatures found to be optimum for the corresponding species of temperate zones. The discussion is replete with problems of interest to the biologist who is prepared to consider life as it is, not as he would wish it to be.

There are in addition to the chapters on the bacteriological investigations, sections devoted to the consideration of physiological observations carried out during the expedition. The effect of the exciting and not unhealthy life of the explorer in polar regions on the hæmoglobin and cellular content of the blood, on the level of the blood pressure, on the body weight and on the rate of growth of nails and hair are of definite scientific value. Dr. McLean has added a chapter which he heads immunity. He has made a mistake to include this in his book. The records of opsonic indices are incapable of revealing a measure of the healthy man's immunity to infections. He makes full amends for this one indifferent part of his work. His chapter on dietary is excellent and will be found valuable for future expeditions. The closing chapters, in which he indulges in philosophical discussion in his very best style, fills his readers with an irresistible longing to face the blizzard in search of truth. It is a splendid book.

MEDICAL ELECTRICITY.

A small volume,[1] written by E. M. Magill, about galvanism and faradism contains an accurate account of the apparatus used for the medical applications of electricity and some brief directions about the employment of electricity for the diagnosis and treatment of disease. The book is intended for students of massage preparing for examinations for certificates of training. As a result, explanations requiring an extensive knowledge of mathematics, physics and chemistry have been omitted from the text. Simple accounts are given of the matters necessary for the efficient practice of electrotherapy. Seventeen chapters are devoted to the consideration of galvanism. These chapters deal with electricity developed by friction or obtained from the flow of currents, with chemical action as a source of difference in potential, with galvanic cells, with the relation between voltage, resistance and current, with batteries, especially those suited for medical practitioners, with the chemical and physiological changes occurring at the anode and kathode, with the medical application of galvanism, with ionic medication, with electrolytic burns and with the effects upon muscles. Five chapters are concerned with faradaic currents. They deal with induction, with the faradic battery, with the methods of applying faradic stimulation, with the therapeutic uses of the induced current and with the employment of combined currents. Six chapters are devoted to currents taken from mains carrying electricity. These chapters deal with the construction and character of dynamos, with the utilization of direct currents, with the dangers contingent to the presence of earth currents, with the employment of alternating currents, with electric baths and with the use of radiant heat and light derived from electrical energy. An appendix treats of accumulators and the movements of bacteria in an electric field. Another appendix contains the syllabus of the examination in medical electricity for the Incorporated Society of Trained Masseuses and a number of the examination papers.

The book can be recommended as admirably adapted for the purpose of supplying a simple yet accurate account of medical electrical apparatus and their employment. It will not only be useful to the masseur, but it will provide every medical practitioner who is not an expert on these matters, with a brief and interesting résumé of this domain of medicine.

[1] Notes on Galvanism and Faradism, by E. M. Magill, M.B., B.S., Lond., D.P.H., R.C.S.I. (Hons.), London; 1919. H. K. Lewis & Co., Ltd.; Second Edition, Crown 8vo., pp. 224, with 67 illustrations. Price, 6s. net.

THE CARE OF BABIES IN TASMANIA.

The Hobart Child Welfare Association completed the second year of its activities on August 31, 1919. During the first year the Association employed one nurse to look after the infants of the Southern City. It was found, however, that a second nurse had become a necessity. At the same time it was felt that the infants of Hobart should be given a milk of guaranteed purity. The Chief Secretary was approached and, as a result of the interview, a second nurse was appointed and a grant of £50 was obtained for the purpose of instituting a pure milk supply. The City Council agreed to subscribe another £50. A dairy owned by Mr. R. Nettlefold provided the milk from August 1, 1919. All the cows had been tested with tuberculin. The milking is done by machinery and modern methods of cleansing and sterilization are employed. The milk, after straining, is bottled, sealed and chilled. The Association provides for each mother a specially contructed box to contain the bottle. The box is constructed to keep the milk at a low temperature. We are informed that this milk is in every way reliable and satisfactory.

In October, 1918, the children provided for under the *Infant Life Protection Act* were removed from the guardianship of the Police Department and handed over to the care of the Chief Secretary. The Child Welfare Association endeavoured to have the control of these children placed in the hands of the Chief Health Officer with the assistance of the Child Welfare Nurses. The arguments used were that the head of the Department charged with the responsibility of looking after these infants should be a medical practitioner and, secondly, that there should be continuity in the work of caring for these children. The nurses of the Child Welfare Association get in touch from the time of their birth with these children who are, in the majority of instances, illegitimate. Apparently the movement was not successful. The endeavour will, no doubt, be continued and we hope that the transfer will be effected in a short time.

The Association owns a Baby Clinic in Murray Street. The Clinic is open every afternoon. From September, 1918, to August, 1919, the nurses of the Clinic paid 1,505 visits and took under their charge 1,037 new-born infants and 468 delicate babies. The number of visits paid by mothers with their babies to the Clinic was 1,487. On two afternoons in each week a medical officer attends in an honorary capacity to examine and treat all babies who are ill. The number of babies dealt with in this way was 120. In regard to the milk supply, those mothers who can afford it, are required to pay according to their means. When the mothers are not in a position to pay, the milk is supplied free of cost. We are pleased to note that this excellent institution entered its third year with a balance of £145 to the good. The maintenance of this credit balance, however, will depend on the generosity of the public of Hobart.

VENEREAL DISEASES ACT, 1918, OF NEW SOUTH WALES.

A proclamation has been issued on December 30, 1919, postponing the date on which the *Venereal Diseases Act, 1918*, is to come into operation from January 1, 1920, to March 1, 1920. No reasons are ascribed for this further delay in the introduction of the Act.

The Medical Journal of Australia.

SATURDAY, JANUARY 10, 1920.

A Retrospect.

(II.)

Medicine.

During the past twelve months much valuable work has been accomplished in the realm of medicine. The debt owing to the laboratory worker is growing yearly greater. It is, however, gratifying to note that in many avenues of medical science, the biochemist, the pathologist and the clinician are uniting their efforts toward the solution of some of the problems that perplex them. In the following summary of the more important advances in medicine only a small portion of the work that has been done, can be reviewed. It is impossible to appraise the value of many contributions until time and continued study have assisted in distinguishing between fact and fancy and have removed the thousand and one doubts that usually accompany new records and fresh observations.

Much ingenuity has been displayed in the consideration of the basic problems of physiology and pathology connected with the fate of protein and carbohydrate in the body. The understanding of the genesis and rôle of acidosis and alkalosis has been greatly extended, although much remains obscure in connexion with significance and mechanism of these conditions. The phenomena of sensitization, not only in its narrower sense, but also in its broader, pharmacological aspects, have been greatly elucidated. The perplexities surrounding the subject of tissue response to the parenteral introduction of protein have encouraged investigations which promise to bear good fruit in clinical medicine in the near future. Some additional light has been thrown on the intricate problems of the inter-relations of colloids and salts in the body in health and disease.

Diseases of the cardio-vascular system have been carefully studied. The electro-cardiograph has served to confirm and extend our knowledge in many directions, although no epoch-making discoveries have been made with its aid. Numerous investigators have studied the symptom-complex, known as "disordered action of the heart," both in civil and in military practice. The opinion held by the majority of those competent to judge is that the tachycardia is rarely, if ever, related to hyper-thyroidism and that the condition probably depends on a hyper-excitability of the sympathetic mechanism due to divers causes. It is worthy of note that many clinicians have found suprarenal extract of value in the treatment of this condition, especially in those cases in which vaso-motor symptoms are prominent.

Of the diseases of the lungs, asthma has received the greatest amount of attention. The conviction has gained ground that in many, perhaps all, cases, the symptom-complex is essentially anaphylactic; at times the hypersensitizing antigen is food protein; at other times it may be bacterial or pollen protein. A large number of cases have been reported in which a hypersensibility has been demonstrated to definite proteins by intra-dermal tests.

Diseases of the kidneys, more especially chronic nephritis, have been the subject of many careful metabolic studies. The tentative classification of uræmia into one condition associated with retention of non-protein nitrogen and another in which the retention of chlorine is the main factor, has received further support. It has been proved that prolonged protein over-feeding produces chronic interstitial nephritis in animals. In this way, the clinician has received a valuable lesson in dietetics.

The employment of antimony in the treatment of vesical bilharziosis has placed in the hands of the physician a weapon of use in a disease which he was formerly powerless to fight. The most notable advance in connexion with diseases of the alimentary tract has been in the endeavour to explain the symptomatology in terms of the underlying nervous mechanism, resulting in a growing precision in diagnosis.

The treatment of diseases of the blood has been reinforced by the results of transfusion. It has been shown that all diseases of the blood, including the leukæmias and pernicious anæmia, are at least temporarily benefited by this process. It has been claimed that subacute sepsis and certain forms of nephritis also react well to transfusion.

The hormonopoietic organs have attracted a large amount of attention of research students. This is one

of the most fascinating and most difficult branches of medicine and the number of its investigators is large. The synthesis of thyrotoxin, the active principle of the thyroid gland, is perhaps the most important physiological advance to be chronicled. The value of X-ray therapy in hyperthyroidism is now well established, though the results are at times disappointing.

There has been a growing tendency to recognize the frequency of the so-called pluri-glandular syndromes, in which more than one internal secretion is deficient and though there has been much inexact and unreliable experimental work in this field of research, there is no doubt that the understanding of much that has hitherto been obscure, will soon be extended.

In the province of vaccine therapy much research has been conducted. This method of treatment still suffers, as it has suffered in the past, at the hands of over-enthusiastic supporters. The later conception of a non-specific response on the part of the body to the introduction of vaccines, in addition to a specific response, has found many adherents. This has led to the parenteral introduction of egg-white and other proteins in the treatment of bacterial infections in which the causal organisms have not yet been isolated. Encouraging reports have been published of the results of this form of treatment in some types of infective arthritis. The matter is still *sub judice*.

Surgery.

The fruits of five years' war experience are now being reaped. The gain to civil surgery can now be more or less accurately estimated. The distinction between a contaminated and an infected wound can be appreciated more clearly than formerly, with the result than drainage, which in a wound merely contaminated is harmful, is now less often employed. Gauze as a drainage material is being generally condemned. The careful excision of contaminated wounds with primary suture is followed by success in 90% of cases.

The ætiology of shock has been carefully examined by a number of observers and much valuable work has been achieved. Incidentally its treatment has received attention. It is established that shock may occur without hæmorrhage, but actual or potential hæmorrhage must be seriously considered in every case before being definitely excluded. The transfusion of blood or of 6% solution of gum acacia in normal saline solution is almost universally applied in the treatment. Citrated blood from a group IV. donor is used for transfusion by the most cautious surgeons, for, unlike the direct method or the use of the Kimpton tube, it removes the necessity of cutting down on a vessel and consequent damage to the vessels of the donor. With the direct method it is impossible to estimate the amount of blood transfused, while by using the syringe the careful co-operation of two practised operators is essential. In the practical application of transfusion at present, it is held to be necessary to ascertain before the operation whether the blood of the donor and that of the recipient are compatible, that is whether or not the serum of the one induces agglutination of the corpuscles of the other. In practice the test is carried out with the serum of the recipient and the blood cells in suspension of the donor.

A condition has been described under the term war headache by Rawling. It is said to be more common in connexion with head injuries in which the skull box remains intact than in the presence of fractures. It occurs also when a foreign body is lying in close apposition to a ventricle. It is probable that the pathology of this condition involves increased intracranial pressure and cerebral œdema. If a probationary period of treatment by rest and suitable dieting for three months is unavailing, a sub-temporal decompression is recommended. Lumbar puncture has proved itself of no apparent use.

For operations on the pituitary body a modification of the fronto-orbital method has been advocated, in which a T-shaped incision is made into the *dura mater* and the *sella turcica* approached intradurally.

De Martel has explained his technique for operations on the spinal cord. He insists on the importance of close co-operation between the surgeon and the neurologist, on the careful identification of the vertebral spines in relation to the lesion and on the gentle evacuation of the dural sac before the *dura mater* is incised. The more limited the laminectomy, the more hopeful is the prognosis. During the operation the blood pressure must be constantly observed, since a sudden fall might necessitate the termination of the operation.

Bloodgood has pointed out in dealing with central giant-cell tumours of bone that the tumour does not necessarily become more malignant when the bony shell is perforated or even completely destroyed. There appears to be little risk in performing a local operation. The proper recognition of this point will tend to prevent unnecessary mutilation. It has long since been recognized that for the closure of cavities and tunnels in bones, it is essential that they be converted into troughs after any sequestra that may be present have been removed. The minds of many surgeons have been exercised in the endeavour to discover a satisfactory method of filling these troughs. Sargent has recommended the use of a well-pedicled muscle flap.

It has been claimed that the use of the cautery in the removal of tumours of the upper jaw is of value. The mortality is low and the operator is enabled to work from the growth outwards, instead of skirting widely round the tumour with a consequent sacrifice of much healthy tissue, as is the case with excision.

A case of polyposis of the stomach has been recorded by Balfour. This condition is not to be confused with that of simple polypi, which is not uncommon. In the treatment of ulcer of the lesser curvature, Duval has commended Balfour's method of cauterization and gastro-enterostomy. He prefers this to operating with a saddle-shaped incision, because the latter destroys the innervation of the stomach and makes the organ functionally bilocular. In hour-glass contraction of the stomach, efficient treatment demands not only that both pouches should be drained, but that the causal ulcer should be cured. If there is any indication of malignant disease, a partial gastrectomy with implantation of the end of the cardiac pouch into the jejunum, is necessary. In the absence of all signs of malignant degeneration, excision of the ulcer, pyloric occlusion and posterior gastro-enterostomy are said to yield the best results. From the Mayo Clinic comes a new method of performing permanent colostomy. A through-and-through stitch is used to unite the two sides of the abdominal wounds through a T-shaped opening in the mesentery of the gut.

The question of cholecystostomy or cholecystectomy is still being debated. Pancreatitis has been produced artificially in animals by increasing the resistance of the sphincter of the common duct. The conclusion to be drawn from this would be that to overcome pancreatitis and gall-bladder disease, it is necessary to lower the heightened pressure in the biliary system and to drain the infected bile. Removal of the gall-bladder, which is the only muscular apparatus in the biliary system, satisfies the first indication. The most effective method of drainage is probably through the common duct. This may offer an explanation of the excellent results obtained in cases of cholecystectomy combined with the stretching of the ampulla with Hegar's dilators. This method was first practised by Sir Alexander MacCormick.

In the treatment of hepatic abscess in amœbic dysentery repeated aspiration has been advocated in the place of continuous drainage. The argument put forward has been that once the tension within the abscess is diminished, the plasma laden with emetine can exert its therapeutic effect.

The surgery of the chest is being brought more and more into line with that of the rest of the body. C. E. Corlette has reported a case of hydatid cyst of the chest, in which he operated successfully without drainage.

An experimental investigation into the materials used for suturing nerves has led to the conclusion that all chemical antiseptics must be studiously avoided and that plain silk and thread, though not absorbable, are the least irritating. The inguinal method of approach in femoral hernia, which had long fallen into disuse, is being strongly revived. It is being described as a new operation.

Neurology.

During the past year war casualties, in their bearing upon the central nervous system, have continued mainly to occupy the attention of clinical neurologists. Some investigations by English workers have attracted considerable notice. A research redounding to the credit of one of the master minds of British neurology, is that of Henry Head on sensation and cerebral cortex. He explained how the central nervous system integrates the effects of a common sensory stimulus and in particular how the cerebral cortex deals with discriminative and the optic thalamus with non-discriminative aspects of sensation. He

makes clear in this way much that was previously quite obscure. Stimulated by Head's work, Elliott Smith has found it incumbent on him to investigate the evolution of the brain and to endeavour to explain the part played by the optic thalamus and hypo-thalamus in the acquirement of the more perfect instrument to seal the discriminative side of the animal's consciousness. Another cognate and valuable work is that undertaken by Gordon Holmes on visual localization. Mention should be made here of Walshe's research on spasticity and the functional relations of the pyramidal system in their bearing upon the principles of physiology enunciated by Sherrington. It has been shown that the two main types of spasticity, the extended and the flexed, may be compared with "decerebrate rigidity" and the "spinal animal" of the physiologist. In holding that the cortico-spinal system is supreme in the production of spasticity, Walshe controverts Ramsay Hunt's speculations on the supposed activity of the *corpus striatum* in this direction.

Fresh lines of thought have been opened up by Graham Brown and Stewart in an account of a phenomenon called heteræsthesia. This enables cutaneous areas to be mapped out, apparently corresponding to segments instead of to nerve roots of the spinal cord. The same writers have made a further contribution to the study of reflex phenomena in spinal injury in man. They have shown that the limb reflexes of man are strictly comparable to the limb reflexes of other vertebrates. Equally stimulating is a paper by Ramsay Hunt suggesting that peripheral nerves may carry two kinds of motor impulses for primitive and skilled movements respectively.

The psycho-neuroses of war continue to attract attention and now that the effects of concussion are better comprehended, the pendulum of thought has swung toward correcting the idea that the psycho-neuroses are exclusively of emotional origin. Among other affections of the nervous system, cerebro-spinal meningitis, rabies and cerebro-spinal syphilis may be named as having received special study.

Gynæcology.

During the past year, practically the whole of the records of advances in gynæcology and obstetrics has come from North America, the United States contributing the greater portion.

The controversy on the correct method of treatment of uterine myomata has been continued unabated. There have been many protagonists of the operative treatment. John C. Clark has given a very well thought out contribution on the value of radium treatment. There is no doubt that radium emanation is of great value in the treatment of relatively small and uncomplicated myomata. Were it not for the exorbitant price of the metal, it would be more generally used than it is at present. N. M. Alter has published the results of careful and exact observations on the effect of radium applied in the treatment of cervical carcinoma. He has shown that the nuclei of the parenchyma cells are first attacked and that the protoplasm soon undergoes degenerative changes. The invasion by connective tissue of the tumour areas is shown to be a secondary result, depending on the primary disappearance of the parenchyma and the necessity of some new formation to fill its place.

Intra-peritoneal hæmorrhage from the tubes and ovaries, other than that caused by extra-uterine pregnancy, has been discussed and several instructive cases have been reported.

E. H. Richardson has recommended the retention of sound ovaries when hysterectomy is performed both before and after the climateric. He holds the opinion that the vascular supply of the retained ovary should be interfered with as little as possible, in order to prevent the appearance of pain and discomfort.

Sacral suspension of the uterus by shortening the utero-sacral ligaments in cases of retroversion and prolapse has received attention. So far this procedure has apparently not led to dystochia.

In an interesting article on the prevention of "gas pain" after abdominal section, L. A. Emge has recommended that the so-called "careful preparation" of patients by means of dieting and purging should be discarded. His results seem to show that patients treated without preparation are much more comfortable and suffer less distension than do patients who have been purged.

Obstetrics.

Notwithstanding many endeavours to handle the subject of the so-called toxæmias of pregnancy, no material advance has to be registered either in regard to the pathology of this complex of conditions or in

regard to the treatment. The indiscriminate use of Cæsarian section for eclampsia has met with strong opposition. The majority of obstetricians favour conservative treatment. Sir William Smyly has drawn attention to the relationship between albuminuria and concealed accidental hæmorrhage.

One of the most important occurrences of the year has been Henry Jellett's recommendation of the radical cure of moderate degrees of pelvic contraction by means of pubiotomy. He has suggested that the operation should be performed, when feasible, during the intervals between pregnancies or even early in the course of a pregnancy. It remains to be seen what measure of success will attend the general adoption of this procedure.

During the influenza epidemic in America some statistics were collected concerning the effect of pregnancy and labour on the course of the disease. It was found that the death rate among pregnant women was 45%, while when abortion occurred or labour set in, the mortality rose to 80%. This effect of pregnancy on a disease frequently complicated by pulmonic involvement, is not unexpected. A similar rise in mortality has been noted in ordinary lobar pneumonia.

An interesting contribution by John G. Murray, of the Johns Hopkins Hospital, concerning the relation of the supplying ovary to the determination of sex, proves conclusively that both sexes may be developed from one ovary and that there is no means of foretelling the sex of an unborn child.

Orthopædic Surgery.

Two notable events have to be recorded in connexion with orthopædics in the year 1919. The merging of the *American Journal of Orthopedic Surgery* into the *Journal of Orthopædic Surgery,* so as to embrace the opinion of the whole English-speaking world, instead of voicing that of American workers only, has consolidated and enriched the literature of the subject.

In Australia the medical profession and the general public have come to appreciate more clearly the scope and aim of the science of orthopædics through the self-sacrificing and untiring efforts of Lieutenant-Colonel R. B. Wade, the Consulting Orthopædic Specialist for the Commonwealth. The establishment of military orthopædic centres, in their present form, throughout Australia is a tribute to his energy and enthusiasm. These centres serve to ameliorate physical deformity and to enable the incapacitated soldier to return to civil occupations without any unnecessary loss of working efficiency. Australia owes it to her gallant soldiers that no pains should be spared to achieve this end.

War injuries in the past have provided extensive fields for surgical experience. This has been illustrated repeatedly during the past twelve months. The technique of bone grafting has been built up gradually and has now become a procedure that can be carried out with safety and with certainty as to the result. The failure of some of the earlier nerve repairing operations has popularized tendon transplantations. The results attending these operations have been excellent. The actual technique of tendon transplantation has been advanced another stage by M. A. Bernstein, who claims that the physiological method is to take the tendon with its sheath and peritendinous structures to the new site. Under the conditions of experiment, it has shown that the formation of adhesions was avoided which would obstruct the movements of the transplanted tendon and that the risk of degeneration of the tendon was removed.

The efficacy of nerve transplants to fill in large gaps in motor nerves has been repeatedly challenged. The majority of orthopædic surgeons insist that end-to-end suture of divided trunks is the only satisfactory method.

Langley's experiments on denervated muscle tissue have profoundly modified orthopædic practice regarding the after-treatment of nerve injuries. During the past year many surgeons have been using less exaggerated position of rest. A temporary relaxation of the position of rest is usually permitted for the purpose of carrying out a small number of passive movements. The production of contraction in denervated muscular tissue is losing favour as a therapeutic measure. It is held to be better to wait until voluntary power has returned before contractions are produced electrically. There are some who find that the use of interrupted galvanic currents to improve the circulation and to favour tissue metabolism is beneficial.

Abstracts from Current Medical Literature.

PATHOLOGY.

(9) Changes in Cancer of the Cervix After Radiation.

N. M. Alter points out that the application of radium as a therapeutic agent in cancer was empirical when first introduced (*Journ. Med. Research*, September, 1919). Hitherto the investigations into the changes produced by radium in malignant growths have been undertaken without any exact scheme which would enable the observer to evaluate the essential parts. In the course of an extensive study of this subject, Alter has carried out a minute investigation into the histology of squamous-celled carcinoma of the uterine cervix, both before and after radiation. He recognizes an adenoid type, a solid type and a cystic type of tumour and describes the histological characteristics of each. The earliest visible changes after the application of radium are those of an inflammatory reaction. This reaction is characterized by a peculiar infiltration. The most noticeable cell invading the altering growth is an eosinophile cell. The appearance of the section at this stage is like a very exaggerated histo-eosinophilia, which is not uncommon in an unaltered growth. In the next place, vacuolar degeneration of the parenchyma is seen. Many young blood vessels grow into the parenchyma and separate the individual epithelial cells. The separation is accentuated by hæmorrhages and exudation. The nuclei and the protoplasm of the cells take on a gradual swelling. The former become uniformly pycnotic, but at a later stage lose their stain-taking capacity. As the protoplasm swells, it becomes strongly acidophilic. While these changes are going on, connective tissue rich in cells makes it appearance throughout the affected area. There is, however, no active proliferation of the connective tissue cells. After the third week the nuclei of the parenchyma cells are devoid of mytotic figures and appear to be in a state of rest. Later the protoplasm and the nuclei enter a stage of destruction. The chromatin substance forms irregular globes and diffuse mesh-work, often enclosing patches of protoplasm. Alter holds the opinion that at this stage the chromatin has lost its ability to participate in vital processes. The masses of chromatin coalesce and often form collections of considerable size. In the surrounding tissue there are fibroblasts and round cells, polymorpho-nuclear leucocytes and mononuclear epithelial cells. The connective tissue appears in great amount and lends to the section the appearance of diffuse sarcomatosis. He emphasizes the fact that, notwithstanding the striking appearance of the overgrown stroma, the primary effect of radium is on the parenchyma cell, which it destroys. The increase of connective tissue is secondary, resulting from the disappearance of the parenchyma, and depends to a great extent on the advent of wandering cells. He has shown that the chromatin of the nuclei is extremely sensitive to radium and traces the destructive process to this tissue.

(10) The Fæcal Flora of Children With "Intestinal Intoxication."

Morris, Porter and Meyer (*Journ. Infectious Dis.*, November, 1919) have studied in some detail the bacteria contained in the fæces of children apparently suffering from "intestinal intoxication." They have worked out standard methods for the examination of such fæces and as a result of their investigations they recognize three types of intestinal flora: the fermentative or saccharolytic, the facultative or normal and the putrefactive or proteolytic. Each of these is characterized by a certain definite group of bacteria. The colour and consistency of the stool specimens do not suggest the type of flora present except in fermentative types. A light, buff-coloured, foamy, semi-formed stool, with a sour odour and strongly acid reaction, is very suggestive of a fermentative fæcal flora. The fæcal flora of artificially-fed children, not suffering from any intestinal disturbance, resemble those of a slightly putrefactive stool. The putrefactive flora, which may be responsible for clinical symptoms, is always characterized by rapid liquefaction of gelatine, Löffler's serum and milk curd and strongly alkaline reaction on endo plates. With the fermentative stool there is complete absence of liquefaction of gelatine and Löffler's serum, acid reaction of endo plate and a predominence of aciduric bacilli—*B. bifidus* and *B. acidophilus*. For clinical use the authors have selected the gelatine stab tube, Löffler's serum slant, cresol purple milk, 1% lactose peptone bile in fermentation tubes and endo plates. They examined a series of cases before and during treatment. One fact pre-eminently stands out, namely, the fæcal flora of a child which shows the syndrome—tired look, dark circles around the eyes, liquid or constipated stools, anorexia, cyanosis, stupor and semi-consciousness and laxity—is always strongly putrefactive. Clinical improvement or even complete cure followed the use of strict carbohydrate diet with the formation of a fermentative flora, but when the regimen was rather lax, relapses were common and in every such case there was a return from semi-fermentative flora to a strongly putrefactive one. Sometimes several weeks on a carbohydrate diet are necessary to effect a change in the flora and it may be advisable to implant aciduric organisms by feeding pure cultures or tablets of *B. acidophilus*. Excellent results have followed the use of this principle.

(11) Reaction of the Body to Chilling.

S. Mudd and S. B. Grant have investigated the reactions to chilling of the body surface, particularly in regard to the mechanism of infections of the pharynx and tonsils (*Journ. Med. Research*, May, 1919). The temperature changes in different parts of the body were investigated by a thermo-galvanometric method. The temperature of the skin and oral and pharangeal mucous membranes was shown to fall with chilling of distant areas of the body surface. The blood temperature was relatively unaltered by such cutaneous chilling, there being, if anything, minute rises with chilling and falls with rewrapping. An increase in volume of respiratory exchange was found to result from cutaneous chilling. The changes in the temperature of the skin or exposed mucous membranes were shown to be due to changes in vasomotor tone of vessels supplying these surfaces. It has been assumed that cutaneous chilling causes congestion of mucous membrane. The experiments of these authors show, on the contrary, that chilling of the body surface causes reflex vaso-construction and ischæmia in the mucous membranes of the palate, faucial tonsils, oro-pharynx and naso-pharynx and that recovery after cessation of chilling is incomplete. In several cases exposure was followed by "cold" or sore throat and the authors state that it does not seem improbable that the ischæmia resulting from cutaneous chilling might so disturb the equilibrium between the host and the bacteria in the tonsilar crypts and folds of the pharyngeal mucosa as to excite infection.

(12) Epidemic Encephalitis.

Loewe, Hirshfeld and Strauss (*Journ. Infectious Dis.*, November, 1919) have performed a number of inoculation experiments with the virus of epidemic encephalitis (*encephalitis lethargica*). They obtained a filterable virus from the naso-pharangeal mucous membrane of fatal cases of epidemic encephalitis and the virus was capable of producing in monkeys and rabbits lesions similar to those found in the human brain. The virus was carried through four generations of rabbits, transmitted to a monkey in the fifth generation and then brought back to rabbits. They found that the virus could be recovered from the naso-pharynx of animals inoculated intracranially. A considerable proportion of rabbits was naturally immune and some evidence of acquired immunity in monkeys was obtained.

(13) Carriers of B. Influenzæ.

Agnes I. Winchell and Ernest G. Stillman have investigated the occurrence of *B. influenzæ* in the throats of several groups of normal individuals (*Journ. Exper. Medicine*, November, 1919). They were able to examine a group of individuals whose throats had been examined during the epidemic of influenza. Over a period of six months subsequent to the epidemic the average number of carriers was 41% per month, practically the same figure as was obtained during the epidemic. In a boy's asylum in which no cases of influenza had occurred during the epidemic, 39% of throat cultures from 190 boys showed the presence of *B. influenzæ*. Evidence

was obtained that *B. influenzæ* may persist in the throats of healthy carriers for a considerable period of time, certainly over five months.

PÆDIATRICS.

(14) Transfusion in Infants and Children.

In the field of transfusion in the new-born and in infants and children, Koplik (Reports of Amer. Pediatric Society, *Arch. of Pediatrics,* June, 1919) considers that vast advances have been made in the direction of life saving. The indications for transfusion in the new-born are: (*a*) in cases of uncontrollable hæmorrhage from wounds, surgical or accidental, from the umbilicus or from scalp hæmatomata; (*b*) in forms of frank melæna with hæmorrhage from the intestines, with subcutaneous and gastric hæmorrhages; (*c*) concealed melæna, in which the outward objective signs of hæmorrhage are slight, such as an occasional ecchymosis on the surface, but in which the evidence of internal hæmorrhage is great, such as critical loss of weight, intense anæmia amounting almost to exsanguination, very slight signs of hæmorrhage from the intestine, with marked hæmorrhages into cavities such as the subarachnoid space. In hæmorrhage of the new-born the best results occur where the condition is promptly treated by the introduction of whole or citrated blood directly into the patient's circulation. The advantage of the whole blood method is evident, if in all cases the donor and recipient can be tested for hæmolysis. The advantages claimed for the method of citrated blood are that the blood can be transported from donor to recipient for some distance and that the test for hæmolysis is not necessary. Failures are due to the technique of administration, not to the method itself. Subcutaneous injection of serum or of whole blood fails absolutely in certain cases, which ultimately react to transfusion. Fever is no contra-indication for transfusion, nor is congenital syphilis with melæna. In the new-born subcutaneous injection does well in many cases, but transfusion is the ideal method. In hæmophilia in late infancy and childhood, transfusion is uniformly succesful, even where large amounts of blood have been lost. In one case of pernicious anæmia, a very rare condition in childhood, two transfusions of citrated blood initiated an improvement, which apparently resulted in a cure. Acute and chronic leukæmias are not permanently benefited, nor is purpura improved in any way. Transfusion is useful in acute diseases with a hæmorrhagic tendency and certain forms of streptococci septicæmia react well as long as the heart itself is not affected. In septic cases blood should first be removed to prevent overloading of the circulation. In post-influenzal nephritis treated early, the results are good. To sum up, there are many conditions in infancy and childhood in which, if transfusion be performed in a rational way, it may be a life-saving operation. The indiscriminate use of transfusion and its employment as a last resort are to be deprecated. There should be a very definite idea or indication for the performance of transfusion, if this method of therapy is not to be brought into disrepute.

(15) Fat Metabolism of Infants and Young Children.

Owing chiefly to scarcity and greatly increased cost of milk and butter, vegetable fats, especially in the form of nut-butter, have been extensively used in place of milk fat. These vegetable fats have been shown not to contain fat-soluble vitamine to any considerable extent, and, though this vitamine is present in eggs and in spinach, cabbage, lettuce, etc., these articles cannot be given to children in any large amounts. Milk and butter are the foods which most easily provide an ample supply of the fat-soluble vitamine, but, if given according to the ordinary fat requirements of the children, they contain a marked excess of this substance. Hence vegetable fats, if equally digestible, may be substituted to a considerable degree for milk fat. To test the digestibility of vegetable fats, observations were made by Holt, Courtney and Hales (*Amer. Jour. of Diseases of Children,* June, 1919) on children who received a mixed diet, containing varying amounts of nut-butter or corn oil. Nut-butter consists mainly of cocoanut oil, is white and almost tasteless, but soon becomes rancid. Corn oil is almost tasteless and odourless, when fresh, but acquires an unpleasant taste and smell on continued exposure to air. Analyses were made of the dried fæces of the children taking varying amounts of these fats. It was found (1) that the stools of children receiving a considerable proportion of vegetable fat, did not differ essentially in appearance from those of children receiving mainly milk fat, although they were usually somewhat softer; (2) that the fat percentage of dried weight of the stools averaged somewhat lower when nut-butter was taken and somewhat higher when corn oil was taken, than when the fat in the diet was mainly milk fat; and when large quantities of corn oil were included in the diet, the average was much higher; (3) that the soap percentage of total fat in the stools was usually a little lower and the neutral fat a little higher with vegetable fat than with milk fat; (4) and that when nut-butter was taken, the fat excretion in the alkaline stools was lower and in the acid stools it was higher than when the diet did not contain vegetable fat. When corn oil was taken in considerable amounts, the fat excretion in the stools was higher than when milk fat was mainly taken. However, the total fat intake, when corn oil was included in the diet, was very large and the actual retention of fat always much higher than the normal average for mixed diet. When vegetable fat formed a considerable part of the total fat intake, the percentage of the fat intake retained was usually higher than the normal average. In a few instances when the stools were acid and in a few when large amounts of corn oil were taken, the percentage retained was low. The individual children, observed for considerable periods with changes in the amount and kind of fat intake, showed quite as good digestion of vegetable fat as of corresponding amounts of milk fat and no unfavourable effect on general health and nutrition was observed. No children were kept long enough on a diet presumably deficient in fat-soluble vitamine to warrant any conclusions as to the effect of such a diet upon growth and health. In the case of one child who for five weeks was on a diet in which there was no definite source of fat-soluble vitamine, 95% of the fat being corn oil, he ceased to gain in weight, but showed no loss and the general health remained excellent. The fact may be not without significance that of six children, 80% to 95% of whose fat intake was vegetable fat, two developed styes and two others eczema upon the face, which disappeared when the diet was changed to include milk fat.

(16) Method of Blood Transfusion.

Transfusion of blood is attended by certain dangers, the avoidance of which is essential to the patient's safety and to the success of the tranfusion. Of greatest importance is incompatibility of the blood of the donor and of that of the recipient. This incompatibility is shown by the agglutination or hæmolysis of the corpuscles of the blood of the one person by the serum of the blood of the other. The use of incompatible blood may be avoided in large degree by appropriate laboratory or bed-side reactions. Acute or chronic disease may be transmitted from one individual to another. This may be avoided by a proper history and blood examination of the donor. Acute dilatation of the heart may occur, where massive doses of blood have to be thrown into the circulation. This may be avoided by prolonging the time of infusion. Air embolism is easily avoided by proper care. Blood embolism is especially to be feared where the potential coagulability of the blood is not altered by external means. Snyder (*Illinois Med. Journ.,* August, 1919) considers that the Lewisohn method by blood citration is the ideal method of transfusion, because it obliterates the danger of recipient to donor contamination, because the preparation requires no unusual skill in withdrawing, mixing or handling the blood and because no notice need be taken of the danger of premature coagulation after the blood is prepared from defective preparation of paraffin surfaces or delay in injection, as the blood is not affected by the condition of the walls of its container or the transmitting system and may be kept for hours. The blood may be transmitted to a recipient at a distance. The danger of hæmolysis is reduced to a minimum by injecting 10 c.cm. of the blood and interrupting the flow for a few minutes to note any premonitory symptoms of this catastrophe, serious results may be obviated.

British Medical Association News.

SCIENTIFIC.

A meeting of the Queensland Branch was held at the B.M.A. Rooms, Adelaide Street, Brisbane, on November 7, 1919, Dr. A. Sutton, the President, in the chair.

The President welcomed Colonel D. G. Croll, C.B.E., Major John Hardie, M.C., Major Marshall Allan, M.C., and Captain F. Power on their return from active service. He also extended a welcome to Dr. W. A. Sawyer, the Director of the Queensland Hookworm Campaign, and to Dr. H. S. Waters. Major Hardie responded on behalf of his colleagues who had served in the Australian Army Medical Corps and Captain Power spoke for the members of the Royal Army Medical Corps. Dr. Sawyer thanked the President and members of the Queensland Branch for having invited him to attend their meeting. He expressed the hope that the members would co-operate with him in the hookworm campaign.

Dr. G. P. Dixon exhibited two cases of arthroplasty for ankylosis of the elbow joint, following gun shot wounds. He stated that the patients were shown because the fact that the disability was at present not an uncommon one gave them an actual interest. In many of these cases the patients were discharged and told that no further treatment was advisable, as the arm was in good position. He held that a completely ankylosed elbow joint was a very serious disability, especially in men who were obliged to work for a living. It had been strongly urged that these men should be given an opportunity of obtaining operative treatment. In his opinion, the results, even if not first-class, were very gratifying to the patients. They obtained a joint that was very much more useful than before.

The operation performed was arthroplasty, as described by the late J. B. Murphy, of Chicago. It was preferable to excision in suitable cases, as the risk of producing a flail joint was avoided. The after-treatment was of paramount importance. It consisted in passive and active movements and massage. The most useful of these was active movement, as wasting of the extensor muscles of the elbow was very frequent. The restoration of the power of supination was usually difficult, owing to a variety of causes, including ankylosis of the upper ends of the radius and ulna.

Case I.—H.C., a gunner, suffered a gun shot wound of the right arm in February, 1917. There was a compound, comminuted fracture of the lower end of the humerus and injury to the median nerve, just below the axilla. Complete paralysis of the forearm persisted for many weeks. The muscles gradually regained their power, although some palsy of the muscles supplied by the median nerve remained. The wounds about the elbow joint discharged for six months and several sequestra of bone were removed. He wore an internal angular splint for four months. Passive movements of the elbow joints were practised for two weeks and were then discontinued. His wounds were finally healed in November, 1917.

On December 6, 1918, there was complete bony ankylosis of the elbow joint, with irregular outgrowth of bone. Ischæmic wasting of the muscles of the forearm was noted, especially of the thenar eminence. There was loss of sensation in the median area. Arthroplasty was performed. Pedicled flaps were cut from the lateral aspect of the arm and were passed between the humerus and ulna and between the radius and ulna.

On February 7, 1919, a painful neuroma was removed from the trunk of the median nerve, just below the axilla. The ends of the nerve were sutured.

Dr. Dixon demonstrated that the patient had obtained an elbow joint with a range of movement of about 100°. There was a suspicion of supination. He stated that the movements were improving progressively. The power of the muscles supplied by the median nerve was returning and the loss of sensation was limited to two terminal phalanges of the index finger.

Case II.—J.B.W., a private, had had a gun shot wound of the left elbow in April, 1917. There was a compound, comminuted fracture of the humerus. The wound became very septic and did not heal until July, 1918. There was then complete ankylosis of the elbow joint and firm union between the upper ends of the radius and ulna. The hand was in a position of pronation.

On March 25, 1919, arthroplasty was performed and the head of the radius was removed. This was done on account of extensive scarring. Pedicled flaps could not be obtained. A flap of *fascia lata* and fat was therefore prepared and stitched over the end of the humerus and between the radius and ulna. The arm was put up on a rectangular Thomas's arm splint, with the hand supinated as much as possible. On April 12, 1919, the joint was moved under an anæsthetic. Two days later the temperature was 38.9° C.. The joint was swollen and inflamed. An old scar showed signs of breaking down. An incision was made and pus drained for several weeks.

Dr. Dixon showed that, in spite of the sepsis, the flap of fascia had lived and the patient had obtained a moderately useful joint. The range of movement at the elbow was about 120° and there was a considerable amount of supination. The flexor and extensor muscles of the elbow had developed well and the patient was able to use the arm freely.

Dr. A. S. Roe also exhibited some patients. He then read a paper on the value of the cystoscope as a means of diagnosis in urology (see page 25).

Dr. A. W. Dean read a paper on the isolation of an organism resembling the paratyphoid group (see page 27).

There was short discussion.

The undermentioned have been nominated for election as members of the New South Wales Branch:—

James Adrian Lawson, Esq., M.B., Ch.M., 1918 (Univ. Sydney), "Clifton," 'Mary Street, Auburn.

Ernest Sydney George Killen Vance, Esq., M.B., B.Ch., B.A.O., 1918 (Queen's Univ., Belfast), H.M.A.S. *Sydney*, c/o. General Post Office, Sydney.

Medical Societies.

MELBOURNE HOSPITAL CLINICAL SOCIETY.

A meeting of the Melbourne Hospital Clinical Society was held in the lecture-room at the Hospital on November 28, 1919, Dr. John Gordon in the chair.

Dr. M. D. Silberberg presented a case of chorea, the interest of which lay in the fact that the patient was a woman of 65 years of age. On her first appearance at the out-patient clinic, she had complained of "nerves," that she could not keep still and that she could not sleep. These symptoms were at that time of two months' duration. She had formerly been quite well. Staggering sensations overcame her and she could not keep her hands or her head still. He had been unable to elicit any history of headaches, vomiting, giddiness or addiction to drugs. The patient's history as regards past illnesses was uneventful and chorea was unknown in her family.

Dr. Silberberg detailed the results of the clinical examination. There was pronounced choreiform movement of the arms and head, with a similar affection, though less severe, of the legs and body. No sensory changes could be detected. The pupils were equal and reacted normally and the deep reflexes were slightly exaggerated. There was, apparently, no ataxia for fine movements; the tongue was in a condition of superficial glossitis. The Wassermann reaction of the serum was positive. Cerebro-spinal fluid had not been obtained for examination. Dr. Silberberg further remarked that he had been frequently impressed with the emotionalism of the patient. The point of interest in the case was the age association, yet he could not reconcile the clinical picture with the senile type of chorea, nor with the Huntington type. Habit spasm had been suggested, but he would point out that the movements in habit spasm were repeated, whereas in the case before them there was no orderly sequence of movements. It seemed to him to conform to the ordinary type of chorea and he regarded it as dependent on some cortical lesion, which, in its turn, was associated with the superficial glossitis and the syphilitic reaction.

Dr. Silberberg's second case was that of a young man, aged 20 years, who had been under his observation for eleven months. When he first presented himself at the hospital, the patient's chief complaint was of diarrhœa, although the most obvious features about him were extreme obesity and

a very prognathous jaw. The diarrhœa was of years' duration and during attacks there would be twelve motions in the twenty-four hours, of a very loose character, but not containing any pus or blood. In spite of the diarrhœa, however, the patient's weight continued to increase. He had always been backward at school; he lacked mental concentration and at the age of 20 was acting as messenger boy. He had not been subject to headaches, vomiting or fits. The patient's father was a big man, weighing 120 kilograms and the son stated that he himself had "always been big." There were seven brothers and sisters, none of whom resembled the patient. The patient's height was 168 cm., his weight was 95 kilos.. He was very stout and had a large head (his hat was size 7½). He had a prognathous lower jaw and teeth separation; the upper part of his face was heavy. His hands were long and tapering. There was very scanty axillary and pubic hair. His genitals were small.

Dr. Silberberg said that the specific gravity of the urine was 1,025; the reaction was acid and it contained neither albumin nor sugar, but he had not, as yet, investigated the tolerance for carbo-hydrates. There was an evident left external strabismus. The left vision was $^{6}/_{18}$ and the right $^{6}/_{6}$. From rough tests it appeared that some right temporal hemianopia existed, but this was in need of confirmation by the perimeter. The deep reflexes were equal and active. Dr. Clendinnen had kindly furnished a report on the X-ray examination of the skull; it was to the effect that the *sella turcica* was small, almost wholly filled by large, irregular, posterior clinoid processes and grossly abnormal.

Dr. Silberberg stated that he had instituted treatment with pituitary gland, at first 0.12 grm. three times a day, later increased to 0.6 grm. daily, with thyroid 0.06 grm. three times a day. Distinct mental improvement had resulted, the patient being very much brighter, fresher and of better memory. It appeared to the speaker that in the case he had just exhibited they had an instance of dyspituitarism in which both anterior and posterior lobes were involved. The proper functioning of the anterior lobe was essential to normal growth and development; derangement of the posterior lobe was reflected in imperfect metabolism of carbo-hydrates and fats. In this case the very obvious skeletal changes were indicative of an anterior lobe lesion, the obesity and deficiency of the genitalia being referable to the posterior lobe.

Dr. W. E. Summons introduced for discussion the case of a man who, for six months, had been affected with numbness of the fingers of the left hand. The numbness had latterly extended up the arm and had been associated with some pain in the left elbow. When he first came under observation the patient complained of severe dyspeptic symptoms, *i.e.*, pain in the epigastrium, vomiting and regurgitation of acid fluid. X-ray examination showed that the stomach emptied itself in six hours. There was hyperacidity, demonstrated by the result of a test meal examination, which yielded a total acidity of 88 and free acidity of 65. There was no loss of weight. During the few weeks the patient had been under observation the dyspepsia had been greatly ameliorated by treatment and he had actually gained in weight. Examination disclosed a swelling in the left posterior triangle of the neck and there was no pulse in the left arm. The loss of superficial sensation seemed to vary from time to time. At the first investigation it extended over the whole of the arm and portion of the back, whereas, at a subsequent investigation, there appeared to be no superficial sensory loss over the area supplied by the internal cutaneous nerve. Deep sensation also varied, but at the most recent examination he had elicited total loss of deep sensation over the whole hand, the median, radial and ulnar nerves being all affected. The hand was clammy and, as he had remarked, was devoid of pulsation. He had sent the blood for a Wassermann test, but the result had not yet been returned. Dr. Summons exhibited a radiogram of the area of the tumour and quoted Dr. Clendinnen's report, *i.e.*: "The left first rib is rotated at its vertebral articulation, with its anterior end displaced laterally; there is deficient area between the rib end and the sternal end of calcifying first left cartilage."

Dr. Summons remarked that the dyspeptic history and associated swelling in the neck had, in the first place, suggested malignant gastric growth, but the subsequent course was one of great improvement in the indigestion and an actual gain in weight. He invited discussion of the diagnosis.

Mr. Basil Kilvington observed that the case presented by Dr. Summons differed in important respects from one of ordinary cervical rib, in which condition he had never seen complete obliteration of the brachial artery, though it was frequently compressed. Cervical rib invariably affected the seventh and eighth cords of the brachial plexus. They had to consider a specific periostitis and a slow-growing tumour at the side of the vertebræ. He would be disposed to push anti-syphilitic treatment, even if the Wassermann test proved negative. In the event of there being no response he would resort to operation and endeavour to free the compressed nerves and vessels. Such an operation, however, would be hazardous on account of the risk of opening the pleura. On the whole, he thought the condition was most probably a slowly-growing neoplasm, pushing up the bones and causing pressure on the brachial plexus and subclavian artery.

Dr. Summons remarked that as against neoplasm they had to remember that the condition was of six months' duration. The weight had improved in the last six weeks and the dyspeptic symptoms had almost gone. In view of the progressive wasting of the arm and occlusion of vessels, it seemed to him that operative interference was necessary to relieve pressure.

Mr. Basil Kilvington brought forward a man, aged 23, who had been the subject of cough, with much fœtid expectoration, for 10 months. The patient had had one hæmoptysis. He had suffered frequent night sweats and had lost 6 kilograms in weight in the 10 months period. There were physical signs indicative of a cavity in the upper portion of the left lung and the radiographic appearances were those of a large hydatid in the left upper portion of the chest, filling three quarters of the upper lobe of the left lung. Repeated examinations had failed to detect tubercle bacilli in the sputum and particular attention had been directed to this point, as the patient had come from a sanatorium. That an abscess was present seemed evident, although the mode of origin of the condition remained obscure.

Mr. Kilvington outlined the operative measures he had adopted to secure drainage of the lung abscess. Approach was obtained by removing portion of the fifth rib in the front of the chest. The two layers of the pleura were found to be non-adherent and air was freely sucked into the pleural cavity. Packs were inserted and the parietal and visceral pleuræ over the affected area of lung were sutured to the chest wall. After the lapse of a few days, in order to enable adhesions to form, he had opened the pulmonary abscess by inserting a pair of blunt-pointed scissors and opening the blades in the manner of the Hilton method. Pus was freely evacuated and the abscess was found to be large, firm-walled and chronic. A large drainage tube was stitched in, through which the cavity was irrigated with eusol; within a few days the patient's temperature came down and he was from all points of view very much better. Later on chloramine T., with camphor and creosote base, was substituted for eusol, but the result attending its use did not seem so good as that obtained with eusol. The expulsion of muco-purulent secretion through the wound in the chest pointed to the existence of a definite communication between a bronchus and the outside air.

Mr. Kilvington said that the possibility of treating tuberculous cavities in a similar manner had occurred to him; the procedure would be applicable only when such cavities were well limited. Obviously, where the only outlet was by the mouth, by means of cough and expectoration, the drainage must be very inefficient.

Dr. R. R. Stawell expressed his very great interest in the case exhibited by Mr. Kilvington. He thought that especial value would attach to a bronchoscopic examination of the patient under discussion. As regards cases of saccular dilatation of the bronchus, with free communication with other bronchi persisting, it did not appear to him that drainage was the essential problem, because these cavities were drained into dependent and communicating bronchi. He though that the fixation of the pleura had been a more important factor in promoting healing in Mr. Kilvington's case than the actual drainage. It did not appear to him that the solutions used had played any great part in achieving the beneficial result; washing out was likely to be inefficient when directed to an irregular cavity with unknown aqueducts.

Dr. W. E. Summons asked whether the pleural adhesions found at operation were so extensive as to preclude the possibility of the successful introduction of nitrogen into the pleura.

Dr. Frank Andrew quoted a case that had recently come within his experience of extensive dilatation of the bronchi, accompanied by fœtid and profuse expectoration. There existed also pan-sinusitis, which had responded very well to the various measures directed against it and the patient's health had improved considerably. The bronchiectasis, however, persisted and he eventually made a bronchoscopic examination, obtaining a very satisfactory view of the condition. He found for the most part smooth-walled cavities, with here and there polypoid deposits of a soft granulation tissue, which he had swabbed with absolute alcohol followed by silver nitrate. Temporary improvement resulted. Later on artificial pneumothorax was induced and carried to the maximum degree that the patient could support, but it could not be said that the procedure had affected the cavities to the slightest extent.

Dr. Andrew said that he had notes of a series of thirteen cases similar to that he had just related. With the aid of bronchoscopy he had made a very complete toilet in these cases, *viz.*, absolute alcohol and nitrate of silver as described above, supplemented by 10% argyrol, some of which was left in the cavity. In all there had been improvement for a time, but no greater measure of success had attended his efforts.

He cited two further cases which he thought might interest the members. One was that of a boy, of miserable physique and the subject of acute spondylitis. The antra were very foul and a suppurating tonsil stump was observed on examination. These conditions were rectified by appropriate measures, but some weeks afterwards the boy reappeared, coughing fœtid pus and blood. An X-ray examination revealed a cavity in the upper part of the chest on the right side, the size of which might be compared to that of a five-shilling piece. He had performed bronchoscopy and had found a cavity lined with soft fungating granulations, which bled when touched. A complete toilet was carried out and the result, for a time, was most gratifying. The sputum diminished from 900 c.cm. per diem to 30 c.cm. and the temperature declined from 39.4° C. to normal. The boy was allowed to go home, only to return after the lapse of a few weeks with profuse, fœtid expectoration.

A second boy, aged 16, came under his observation with profuse expectoration, of a tomato sauce-like quality. The condition was apparently causeless, as far as physical signs enabled him to determine. The radiographic report was to the effect that calcified nodules existed in the region of the left hilus. On bronchoscopic examination, there was encountered at the birfurcation of the lower stem bronchus, soft granulation tissue, which bled at the slightest touch of a probe; beyond this there was a small cavity. The impression gained at the bronchoscopic examination was that one of the glands at the hilus had softened and broken down. The subsequent course of the case tended to confirm this opinion, as the boy did well and remained well in contradistinction to the course pursued by the cases of bronchiectasis which he had described. In conclusion, Dr. Andrew appealed to the members present to afford him opportunity of examining bronchoscopically any of their patients suffering from the type of affection they had been discussing. It was only by systematic and combined study that any real advance could be compassed.

Mr. Kilvington, in reply to Dr. Summons, stated that his observations at the operation he had described, were consistent with Dr. Andrew's experience of the failure of artificial pneumothorax. He found that the affected lobe of lung was fibrotic, hard and apparently incapable of collapse. The pneumo-thorax which ensued when the pleura was opened, led to collapse of the healthy, lower portion of the lung only. Dr. Stawell had expressed the opinion that the irrigations employed were not likely to effect much improvement; he had not anticipated any permanent improvement from the use of the lotions, in the absence of healing of the cavity; he had based the procedure on the good results obtained in empyæmata.

Mr. T. H. Boyd exhibited a patient who had been formerly shown at the Society by Dr. W. J. Denehy. Since that occasion he had operated and removed the nævus of the temporal region and had found the vascular tumour extending into the temporal muscle and the periosteum. Some of its communicating vessels appeared to come through the temporal bone, one, located in the zygomatic fossa, causing considerable difficulty.

Mr. Boyd submitted a second case as a question of diagnosis and as one in which difficulty arose in determining the best procedure to follow. The patient, a man aged 40, related a story of "gastritis" and indigestion of 18 months' duration. There had been considerable loss of weight and the history was strongly suggestive of duodenal ulcer, pain supervening two hours after meals and relieved by taking a little food. Some vomiting and acid regurgitation had occurred from time to time; there had been no hæmatemesis and the stools had been examined for occult blood on several occasions with a negative finding. The total acidity, by test meal titration was 58 and the free acidity 30. X-ray examination showed considerable delay in the emptying of the stomach, a 24 hours' residue persisting. Mr. Boyd outlined the conditions he had found at operation. No pyloric infiltration was evident, but there was present a large, saddle-shaped ulcer across the lesser curvature, the ulcer showing a much thickened base. Enlarged glands were encountered along the lesser curvature and extending to the cardio-œsophageal junction. As he had remarked, the difficulty was to decide what to do. The clinical and clinico-pathological examination pointed to a simple ulcer, whereas in appearance the ulcer was malignant. He elected to perform partial gastrectomy and the patient had benefited to a great degree. Vomiting had occurred on two occasions only at long intervals and there had been definite gain in weight.

The Wassermann reaction in this case had been returned as partial and the microscopic report on the excised ulcer stated that no mucous membrane was present in the section, which was apparently non-malignant. No doubt a section of the edge of the ulcer would have been more satisfactory. In conclusion, Mr. Boyd exhibited the specimen removed at operation.

Mr. T. E. L. Lambert then gave a demonstration of the use of Abbott's frame in the treatment of an extreme case of scoliosis.

Mr. W. Kent Hughes brought before the meeting an old man, aged 75, who six weeks previously had been referred to him with a very large, inoperable epithelioma, at that time filling the mouth and right side of the cheek to such an extent that the patient could not, without great difficulty, put his finger in his mouth. Upon enquiry, it was found that the first appearance of the growth was six months before the patient first applied for treatment. Mr. Kent Hughes had instituted treatment by diathermy and after six weeks the result was as could be observed in the patient. There was now only a small ulcerating patch near the angle of the jaw and the mouth was freed, permitting of ready opening. Unfortunately, a small area of sloughing had led to a fistulous opening on the cheek.

Dr. J. F. Wilkinson's case was that of a youth about whom the most noticeable features were a greenish-yellow colouration of the skin, œdema of the eyelids and sub-conjunctival hæmorrhage. Closer inspection showed a brown pigmentation of the face and extremities and purpuric spots on the skin of the back, chest, limbs and abdomen. The cervical glands were palpably enlarged, the submaxillary group less so and the axillary glands apparently not at all. The result of the blood examination was: red cells, 3,000,000 per c.mm.; white cells, 62,000 per c.mm.; hæmoglobin, 70%.

The film showed a large number of lymphocytes, mainly of the small variety, with a fair number of transitional cells. No myelocytic forms were noted. No retinal hæmorrhages were detected, but the oculist had reported the presence of a minute white effusion in each eye, just outside the disc.

Dr. L. J. Clendinnen presented an elderly man, the subject of a sarcomatous tumour of the mandible, regarded as surgically inoperable. The growth was of a rapidly advancing character and attained a large size within seven weeks of its first appearance. Dr. Clendinnen had embedded radium (90 mgrm.) on several occasions for 48-hour periods, at weekly intervals. He had also given large doses externally of filtered rays. Altogether, the patient had had the equivalent of 7½ days' radium embedding and 7½ days' application of surface rays. The treatment had extended over six weeks and the growth had definitely receded.

Naval and Military.

APPOINTMENTS.

The following announcements are published in the *Commonwealth of Australia Gazette*, Nos. 141 and 142, of December 24 and 31, 1919:—

Australian Imperial Force.

APPOINTMENTS TERMINATED.

First Military District.

Major J. Hardie, M.C., 6th January, 1920.
Captain B. L. Hart, 24th November, 1919.
Lieutenant-Colonel G. E. McD. Stuart, D.S.O., 19th October, 1919.
Captain G. H. Cameron, 6th October, 1919.

Second Military District.

Colonel K. Smith, C.M.G., 17th November, 1919.
Major J. A. James, 11th November, 1919.
Major A. McKillop, D.S.O., 20th December, 1919.
Major C. K. Parkinson, M.C., 30th December, 1919.
Major C. H. Wesley, 2nd January, 1920.
Major A. C. Fraser, 19th December, 1919.
Major H. H. Willis, 5th October, 1919.
Major A. J. Collins, D.S.O., M.C., 27th October, 1919.
Major F. Macky, 23rd December, 1919.
Major J. T. Jones, M.C., 28th October, 1919.
Captain H. G. Humphries, 16th October, 1919.
Captain S. McLennan, 28th November, 1919.
Captain K. S. M. Brown, 25th December, 1919.
Captain J. Stewart, 22nd November, 1919.
Captain J. R. Barriskill, 24th November, 1919.
Captain C. N. Matheson, M.C., 14th December, 1919.
Captain H. J. Orr, 26th November, 1919.
Captain G. E. Hobson, 28th October, 1919.
Captain A. T. R. Robinson, 11th October, 1919.
Captain R. J. Murphy, 29th October, 1919.
Captain W. Broad, 31st October, 1919.
Captain R. B. Trindall, 1st November, 1919.
Captain M. B. Gunn, 15th November, 1919.
Captain J. S. F. Barnett, 16th October, 1919.
Captain A. R. Hunt, 16th October, 1919.
Captain C. R. Hodgson, 12th November, 1919.
Captain J. V. J. Duhig, 27th October, 1919.

Third Military District.

Lieutenant-Colonel A. F. Jolley, 4th August, 1919.
Major F. T. Wheatland, 22nd August, 1919.
Major J. B. Bell, 3rd December, 1919.
Major C. J. Simpson, 2nd December, 1919.
Major M. H. Maller, M.C., 16th December, 1919.
Major C. H. S. Ponsford, 23rd December, 1919.
Major R. M. W. Webster, M.C., 14th December, 1919.
Captain J. S. Yule, M.C., 8th December, 1919.
Captain J. C. M. Harper, M.C., 25th November, 1919.
Captain F. W. Fay, M.C., 29th December, 1919.
Captain E. W. B. Woods, M.C., 29th December, 1919.
Captain H. F. H. Elvins, 21st November, 1919.
Captain V. C. Brown, M.C., 8th December, 1919.
Captain J. M. Henderson, M.C., 18th November, 1919.
Captain E. A. Spowers, 1st December, 1919.
Captain J. I. Connor, 14th December, 1919.
Captain H. R. Hyett, 6th December, 1919.
Captain D. P. Greenham, 12th December, 1919.
Captain E. T. Cato, M.C., 17th November, 1919.
Captain N. A. Maclure, 17th November, 1919.
Captain A. H. Crowley, 8th November, 1919.
Captain W. A. Luke, 31st October, 1919.
Captain O. F. De Lacy, 22nd September, 1919.
Captain A. H. Barrett, 14th December, 1919.

Fourth Military District.

Captain C. W. Stump, 22nd November, 1919.
Captain A. C. Wilton, 12th November, 1919.
Captain B. F. Moore, 27th September, 1919.

Fifth Military District.

Captain G. F. S. Landon, 14th November, 1919.

Sixth Military District.

Lieutenant-Colonel C. Mattei, 16th December, 1919.

Dr. W. N. Horsfall has received official intimation that he has been promoted to the rank of Surgeon-Commander on the Emergency List of the Royal Navy, as from November 11, 1918.

MEDICAL OFFICERS' RELIEF FUND (FEDERAL).

The Trustees acknowledge, with thanks, receipt of the following donations and promises towards the above-named Fund:—

(TWELFTH LIST.)

Queensland.

	£	s.	d.
Dr. Mervyn Patterson	50	0	0
Dr. A. P. Ross	25	0	0
Dr. F. H. Vivian Voss	20	0	0
Dr. G. G. O. Phillips	10	10	0
Dr. B. Gilmore Wilson	10	0	0
Dr. Adela Porter	5	5	0
Dr. T. R. Edmeades	3	3	0

Victoria.

Dr. W. Begg	21	0	0
Dr. C. R. Player	20	0	0
Dr. F. A. Nyulasy	20	0	0

New South Wales.

Dr. L. Fetherston	20	0	0
Dr. F. Challands	20	0	0
Dr. W. C. McClelland	20	0	0
Dr. A. W. Gordon	20	0	0
Dr. T. Graham Campbell	10	10	0
Dr. F. J. Graham	10	10	0
Dr. E. Ken Herring	10	10	0
Dr. Henry Peet	10	10	0
Dr. F. S. Stuckey	10	0	0
Dr. J. W. Sutherland	10	0	0
"Anonymous"	10	0	0
Dr. R. W. Young	5	0	0
Dr. A. T. R. Robinson	1	0	0

Total to January 6, 1920, £10,836 10s. 7d..

His Majesty the King has been pleased to confer a Barony on Sir Bertrand Dawson, G.C.V.O., C.B., M.D., F.R.C.P..

THE HEALTH OF QUEENSLAND.

The Government Analyst and Chief Inspector of Explosives for Queensland (Mr. J. Brownlie Henderson) has submitted to the Under Secretary, the Treasury, Brisbane, his report for the year ended June 30, 1919. The report has been presented to Parliament by command.

During the twelve months, 4,207 samples have been submitted to analysis, involving 24,650 determinations. Although the actual number of samples dealt with has diminished, the amount of work done in the Government Chemical Laboratory has increased. Of the samples, 1,106 were taken by the Department of Customs, 848 by the Port Master, 815 by the Department of Health, 643 by the Geological Survey Office, 244 by the Commissioner of Railways, 186 by the Department of Mines, 71 by the police, 49 by the Government Storekeeper and 245 by other State Departments and the public.

In addition to the specimens requiring the usual estimations of the ordinary metals, such as gold, silver, copper and lead, on behalf of the Department of Mines and the Geological Survey Office, 77 samples of iron ores have been submitted to full analysis to indicate the value of the ore for smelting purposes.

In respect of the work done for the Health Department, 270 samples of milk have been analysed, of which 78 have failed to pass the test. Forty-six samples of disinfectants have been tested, of which 28 have failed to reach the stan-

dard, and 29 samples of beer have been examined, of which four have contained a slight excess of salicylic acid. None of the samples of beer have contained arsenic nor lead. Eighty-one samples of drinking water and sewage have been submitted to analysis. It will be noted that 28.3% of the 265 samples of milk failed to reach the standard. The high proportion of failures, nearly four times as many as in the preceding year, is stated to be due to the abnormal number (34) that have failed to reach the standard for fats. These samples were collected in the middle of the period of drought. While some of the results may be the natural outcome of starved herds, it is held that the majority are due to want of stripping. Of the 815 samples analysed, 201 are stated to have failed in passing the test. The "legal" samples numbered 298, having been taken by inspectors strictly in accordance with the provisions of the *Health Act*. The number of these samples which have passed the test is 171. Thirty-seven prosecutions have been initiated and 37 convictions have been recorded. The fines inflicted, together with costs, have amounted to £299. When the outbreak of influenza took place in Queensland, there was a shortage of sulphate of zinc. The solution of sulphate of zinc has been prepared in laboratory for use in all the inhalation chambers which have been established.

For the Police Department toxicological examinations have been made in connexion with 22 deaths suspected to be caused by poison. In 11 instances no poison has been found, but strychnine has been identified on three occasions, cyanide in three cases, arsenic twice, chlorodyne, oxalic acid and carbolic disinfectant each upon one occasion. In five cases of suspected poisoning of animals, strychnine has been discovered in two cases, while no poison has been isolated in the remaining samples.

For the Railway Department tests have been carried out on 113 lubricating oils. Thirty-four have been considered to be slightly below the specification, although suitable for use, but one has been condemned as unsuitable. Thirteen samples of disinfectant have been examined, of which three failed to reach the standards. Of 44 samples of water, 18 have been shown to be suitable for use with locomotives and 26 unsuitable.

The Government Analyst places on record his appreciation of the loyal efforts of his staff, particularly during the first half of the year, while some fellow-officers have been absent at the front or upon munition work. Fortunately, there have been no further losses of officers upon active service. Two members of the staff have returned to duty after recovery from wounds and four at the termination of the war. A former member of the staff, who enlisted in 1916, has received a permanent position in the laboratories of the Defence Department. Only one member of the staff remains on service with the Australian Imperial Forces.

We are informed that Dr. S. A. Smith, Dr. W. A. Edwards and Dr. H. S. H. Wardlaw have undertaken to collaborate with Professor H. G. Chapman in the investigation into miners' diseases at Broken Hill.

It has been announced that Dr. H. W. Sweetnam has been appointed a member of the Medical Council of Tasmania.

Correspondence.

BRAIN WEIGHT IN CONGENITAL MENTAL DEFICIENCY.

Sir,—The contribution which appeared in your issue of December 27, 1919, under the above title, is an instructive example of erroneous conclusions drawn from insufficient data by improper methods.

In his opening paragraph Dr. Lind makes it clear that he has not read the work—presumably mine, though he has neither the courtesy nor the courage to say so—which he seeks to criticize. Had he done so, he could not have fallen into the error of stating that that work has strengthened the popular idea that congenital mental deficiency is always associated with low brain weight. It does no such thing. It states the very opposite and does so in the following words:: "Mental dulness, even to idiocy, may occur in either microcephalic or macrocephalic heads, as may also genius."

His next deduction, that "the following figures show that brain weight . . . possesses no indicative value when applied to those born insane" is as ludicrous as it is fallacious and could only have been made by one more accustomed to the kitchen scales and elementary arithmetic than the methods of statistical science. As Pearson has put it: "There is a mathematical science of statistics which must be learnt and papers dealing numerically with anthropometric and craniometric data, which do not apply this theory, are simply outside the field of science." Dr. Lind has weighed a few—altogether too few—brains of congenital idiots, has obtained the most diversified results and has immediately jumped to the erroneous conclusion just quoted. Applying the most elementary principles of this statistical science to the only one of Dr. Lind's age groups which contains even an approximation to a sufficiency of numbers, that is, his adults, there are found to be 65 cases, with a median weight of 1,182.5 grammes, or 157.5 grammes less than the normal weight as quoted from Boyd and yet Dr. Lind gravely assures us that his figures possess no indicative value.

It is also now known, from the work of Spitzka and others, that a departure of 150 grammes from the norm is of diagnostic significance and that heads or brains, which show a striking deviation from the normal, will tend to be associated with mental abnormality. Statistical science, as applied to Dr. Lind's adult figures, shows that 50% of his cases do so depart from the median. So far, then, from "brain weights possessing no indicative value when applied to those born insane" the very opposite is found to be the case and for two reasons:—

(1) Because the median for the congenital idiots falls much below—more even than the significant 150 grammes—that for the normal of like age.

(2) Because an even greater percentage of the cases fall at each end of the scale than is the case with the sane.

Correctly analysed, therefore, Dr. Lind's figures prove the very opposite of what he believes and fall absolutely into line with the Victorian researches of Mr. Porteus and myself and with the more recent American work of Mr. Porteus on "The Cephalometry of the Feeble-minded."

The last paragraph is equally astounding. No more recent authority than a writer of 1861 is quoted on the subject of brain weights. No mention is made of the work of Pfister on the fallacies attaching to the post-mortem records of brain weights. Nothing whatever is said as to all the modern work on skull thickness and contents and lastly there comes the amazing statement that "head capacity in the congenital insane has no relation whatever to the degree of intelligence of the individual." In view of the work of Pearson, Bayerthal, Gladstone, Anderson, Malcolm and myself, it would be truly surprising if it had. Does Dr. Lind seriously suppose that anyone nowadays measures a living head with the object of determining the individual's intelligence? Personally, I have not once but many times stated, both in public and in print, that "head measurement and the calculation therefrom of the cubic capacity of brain is not a measure of intelligence." Dr. Lind's own figures conclusively prove that its value is just as much or as little in the insane as in the sane, that is, it affords a first indication as to the degree of departure of the individual from the normal. Under no circumstances can head measurement, or brain weights, do more than this, for the simple reason that the brain is composed of neurones and neuroglia and no amount of measuring or weighing can, at present, separate one from the other. If Dr. Lind would turn his attention to this all-important problem of the relative amounts of neurone and neuroglia, instead of endeavouring to criticize work which he quite obviously does not understand, he would confer a very great benefit on those of us who are doing our best to battle with this growing problem of mental deficiency and I, for one, would welcome his co-operation.

Yours, etc.,

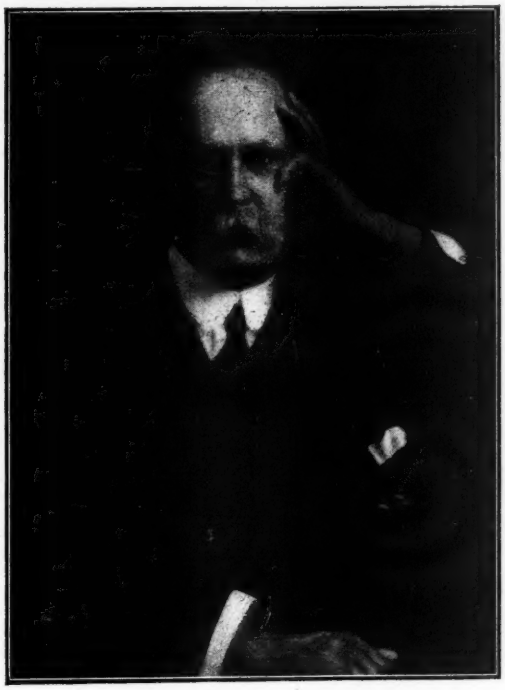
RICHARD J. A. BERRY.

University of Melbourne,
January 1, 1920.

Obituary.

WILLIAM OSLER.

Several years ago William Osler, in a light vein, said that a man, for the purposes of important brain work, was too old at forty. The record of his life demonstrates that, whether this dictum be true or not for the ordinary man, the exceptional man may contribute valuable information and may exercise a beneficent influence for many years after the half-way house has been reached. On December 29, 1919, William Osler's life of over three score years and ten came to a close. As a physician and philosopher he stood pre-eminent, a great leader. The reputation founded at an early age of this wise man followed him throughout the long years and was as universally recognized on the day of his death as it was in the hey-day of his prime. Years made no impression on his active and elastic brain. He remained young when many of his students showed signs of decadence.



William Osler was born in 1849. He was a Canadian and remained British throughout his American career. He was educated in Toronto and studied medicine at Trinity College. At the age of 25 years he was appointed Professor of Medicine at the Institute of Medicine of the McGill University in Montreal, a position he held for ten years. During this time he displayed unusual qualities as a teacher and as an original thinker. His extraordinary facility of storing in neat arrangement in his mind innumerable facts gleaned in the clinic or in the post-mortem room enabled him to appear as an authority in many chapters of medicine, even at this early stage of his career. In 1884 he received a call from America. He responded to the invitation and became Professor of Clinical Medicine at the Pennsylvanian University. His teaching and his researches in Philadelphia produced a profound effect on medicine in America. His association with the College of Physicians of Philadelphia and with the Philadelphian Pathological Society marks an epoch in the history of these important institutions. From Philadelphia he passed on to the Johns Hopkins Hospital and University at Baltimore. From 1889 to 1905 he threw all his energies into a fresh work of reform. His clinical teaching attracted students and graduates from far and near and was a revelation to the masters of the older school. He worked steadfastly to establish a progressive organization. The machine had to be planned and the integral parts assembled and pieced together. Previously the student had been regarded as the receptive part of the apparatus; Osler was far-sighted enough to recognize that the learner and the teacher could collaborate in the advancement of science and in the perfecting of the education of the rising generation. The great institution which now contributes so largely to our store of clinical and laboratory knowledge, owes its position in the world of medicine to William Osler. It was he who cast the die and showed the workers how to utilize the opportunities offered at the hospital.

In the year 1905 William Osler received a great mark of distinction. He was invited by the ancient seat of learning, the University of Oxford, to accept the office of Regius Professor of Medicine. This signal fact demonstrated that his capabilities as a teacher and organizer were known to the medical profession throughout the whole world. His colleagues and students from the east of the Atlantic Ocean gathered on May 2, 1905, to show the man who was the accredited leader of medical thought in the United States, the esteem, respect and affection in which he was held. Professor Tyson was the spokesman on that occasion and he was supported by men of eminence in all branches of learning. American science paid homage to him, not only for his achievements in medicine. His influence had penetrated far beyond the professional bounds and, strange to relate, his contemporaries were ready and eager to admit their indebtedness to him in many spheres of activity.

At Oxford, he displayed the same indefatigable keenness in his search after truth and the same ardent determination to impart his knowledge for the benefit of mankind as had characterized his undertakings in Canada and the United States of America. He was 56 years of age, but was restless in his energy and activity. As a teacher he had lost nothing of his former skill. As a clinician, mature experience had ripened his judgement; as a sociologist, his extraordinary grasp of the world and its inhabitants made him great. He attended almost every medical and quasi-medical meeting of importance. His easy flow of language and happiness of expression conveyed to his audience the contents of his mind and helped others to conceive the same well-ordered and direct ideas as he possessed. Both in public and in private he gave his best freely and continuously and that best was usually unsurpassed.

Space forbids the recounting of all the distinctions that were poured upon him. He attained the blue riband of science, the Fellowship of the Royal Society; he was an honorary doctor of learning of many universities in many countries; he was doctor of medicine and doctor of science many times over and graced the roll of the Fellows of the Royal College of Physicians of London. In the year 1911 he received the honour of a baronetcy in recognition of his many achievements in the public welfare. No medical man has more richly deserved it. Nor is it possible in this place to record his numerous contributions to medical science or to medical literature. Osler has become a by-word among students of medicine in connexion with his magnificent textbook on the principles and practice of medicine. His writings on disturbances of the nervous system, on diseases of the cardio-vascular system, on the pathological states of the alimentary canal and on affections of metabolism are too well-known to need more than passing notice.

The world has lost a man whose influence was all for good; medicine has lost an ideal teacher and a great leader; and many, many medical practitioners and workers in other branches have lost a dear friend, a wise councillor and a manly companion. He died "too young at seventy."

Books Received.

HANDBOOK OF SKIN DISEASES, by Frederick Gardiner, M.D., B.Sc., F.R.C.S.E.; 1919. Edinburgh: E. & S. Livingstone; Crown 8vo., pp. 160; illustrated by 46 figures. Price, 6s. net.

MANUAL OF DISEASES OF CHILDREN, by James Burnet, M.D., M.R.C.P.; Second Edition, 1919. Edinburgh: E. & S. Livingstone; Crown 8vo., pp. 416. Price, 8s. 6d. net.

HANDBOOK OF ANÆSTHETICS, by J. Stuart Ross, M.B., Ch.B., F.R.C.S.E., with an Introduction by H. Alexis Thomson, M.D., F.R.C.S.E., and chapters upon Local and Spinal Anæsthesia, by W. Quarry Wood, M.D., F.R.C.S.E., and upon Intratracheal Anæsthesia, by H. Torrance Thomson, M.D., F.R.C.S.E.; 1919. Edinburgh: E. & S. Livingstone; Crown 8vo., pp. 214; illustrated by 54 figures. Price, 7s. 6d. net.

AIDS TO THE MATHEMATICS OF HYGIENE, by R. Bruce Ferguson, M.A., M.D., B.C., D.P.H.; 1919. London: Baillière, Tindall & Cox; Foolscap 8vo., pp. 186. Price, 3s. 6d. net.

CHILD WELFARE, by J. Sim Wallace, D.Sc., M.D., L.D.S.; 1919. London: Baillière, Tindall & Cox; Demy 8vo., pp. 102. Price, 5s. net.

HALF A CENTURY OF SMALL-POX AND VACCINATION, being the Milroy Lectures before the Royal College of Physicians of London on March 13 and 18, 1919, by J. C. McVail, M.D., LL.D.; 1919. Edinburgh: E. & S. Livingstone; Demy 8vo., pp. 87. Price, 5s. 6d. net.

CATECHISM SERIES: PHYSICS, Part I., Second Edition; 1919. Edinburgh: E. & S. Livingstone; Crown 8vo., pp. 73. Price, 1s. 6d. net.

CATECHISM SERIES: DISEASES OF THE EYE, by William George Sym, M.D., F.R.C.S.E.; 1919. Edinburgh: E. & S. Livingstone; Crown 8vo., pp. 67. Price, 1s. 6d. net.

Medical Appointments.

Under the provisions of Section 35 (1) of the *Public Service Act, 1916,* Dr. W. R. W. James has been appointed Junior Medical Officer to the Mental Hospital, South Australia, in the Department of the Inspector-General of Hospitals.

Dr. P. C. Higgins (B.M.A.) has been appointed Government Medical Officer at Port Douglas, Queensland.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xxi.

Victorian Eye and Ear Hospital: Resident Surgeon.

The Queensland Hookworm Campaign: Medical Officer.

Technical Commission of Inquiry, New South Wales Board of Trade: Physician, Bacteriologist and Medical Officer.

Renwick Hospital for Infants, Sydney: Resident Medical Officer.

First-Aid and Dispensing Hospital, Alpha, Queensland: Medical Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital. Chillagoe Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Canterbury United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Friendly Society Lodges at Lithgow. Friendly Society Lodges at Parramatta, Auburn and Lidcombe. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. Newcastle Collieries—Killingworth, Seaham Nos. 1 and 2, West Wallsend. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society..
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

Jan. 13.—N.S.W. Branch, B.M.A., Executive and Finance Committee; Ethics Committee.
Jan. 15.—Vic. Branch, B.M.A., Council.
Jan. 17.—Northern Suburbs Med. Assoc. (N.S.W.).
Jan. 20.—Tas. Branch, B.M.A., Branch and Council.
Jan. 20.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Jan. 22.—Q. Branch, B.M.A., Council.
Jan. 23.—Q. Branch, B.M.A., Council.
Jan. 28.—Tas. Branch, B.M.A., Annual Meeting.
Jan. 28.—Vic. Branch, B.M.A., Council.
Jan. 28.—Northern District Med. Assoc. (N.S.W.), Annual General Meeting, Glen Innes.
Jan. 29.—S. Aust, Branch, B.M.A..
Jan. 29.—Central Western Med. Assoc. (N.S.W.), 8.30 p.m., at the Woolpack Hotel, Parramatta.
Feb. 4.—Federal Committee of the B.M.A. in Australia (Sydney).

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*. B.M.A. Building, 30-34 Elizabeth Street, Sydney. (Telephone: City 2645.)